

THE MONIST.

MENTAL EVOLUTION.

AN OLD SPECULATION IN A NEW LIGHT.

THE theory of organic evolution, now generally accepted, needs to be supplemented by a theory of mental evolution. On a superficial examination of the matter the necessity for such a supplementary theory does not perhaps strike one as obvious, the mental seeming naturally to arise out of the organic and to be part of one continuous development. But closer investigation and a more rigid and exact treatment bring to light certain important and peculiar features, and disclose the necessity of some such hypothesis as it is my purpose to set forth briefly in the following pages.

By organic evolution I mean the natural development, whether by "selection" alone or by this in co-operation with other natural processes, of the organisms which live upon the surface of this earth; and by mental evolution I mean the natural development of the mental faculties in at least the higher animals among these organisms. Now with regard to organic evolution there is no common and general agreement in respect of the first origin of primitive life on the earth. Some evolutionists believe that the living was somewhere, somehow, and somewhere evolved from the not-living. Others do not feel justified in holding this view, and deem it wiser to restrict their speculations as to natural genesis within the limits of the organic. So too at the other end of the developmental curve;

there is no common and general agreement as to the evolution of the mental faculties or spiritual being of man. Some evolutionists believe that both in body and in mind, man is the product of natural development; others do not feel justified in holding this view, and retain unshaken the conviction that man in his spiritual essence is no part nor product of the common elements of nature. Seeing then that on either side there is want of agreement, on the one hand as to the origin of life, on the other as to the origin of man, I shall deal for the most part with that large area concerning which there is a more unanimous consensus of opinion, and in the main confine my speculations within the field of mental evolution in animals, ranging, say, from the *amœba* to the dog.

Few will be found to deny or even to question the fact that our dumb companions and four-footed friends have mental faculties which enable them accurately to adjust their actions to the varied circumstances in the midst of which their lives are passed. Even if we see cause to hesitate, as I myself hesitate, before we ascribe to them self-consciousness and reason, in the narrower sense in which this word is used; still we must acknowledge that their instincts are powerful, their intelligence wonderfully keen and active; and that they are capable of strong emotional feeling both of affection and of antipathy. Should we so welcome them as our companions and friends if we regarded them as unconscious, insentient automata? But when we turn to the other end of the scale of life, to the *amœba* and all the myriad *minutiæ* that swarm in ponds and stagnant pools, we are wont to speak with less confidence. Their consciousness, if so we can call it, is of so simple an order, their sentience of so low a grade, that we can hardly with any accuracy use the phrase "mental faculties" with reference to organisms so lowly. We feel uncertain whether in their case unconscious automatism does not after all pretty accurately express the facts. At any rate it would trouble us little or not at all if some one proved their automatism to-morrow. And yet, on the theory of evolution, out of such lowly beginnings have sprung the sagacity and affectionate devotion of the dog. But if the *amœba* and his tribe are insentient automata, at what stage of the development did con-

sciousness creep in? And whence came it? Or put what is fundamentally the same question in another way. In the common course of generation the dog is developed from a minute egg-cell, one hundredth of an inch or less in diameter, with which a yet more minute sperm has entered into fertile union. Supplied with shelter, warmth, and nutriment by that maternal self-sacrifice which is a deeply significant fact of organic progress, this little speck of living stuff passes, by a process strictly continuous, though profoundly modified by the catastrophe of birth, into the dog with its wealth of intelligence and affection. It is surely impossible without extravagance to speak of the fertilised ovum as conscious. Where then in the continuous process of development does consciousness come in? How, and whence? We are not nowadays to be put off with the ambiguous assertion that consciousness and intelligence are "potentially" present in the germ. We ask: What is *actually* present therein as the basis of this potentiality? Or are we told that consciousness dawns at or shortly after the catastrophe of birth? Then again we ask: Whence comes this dawning consciousness, and by what means does it become associated with the puppy's brain? In yet another form does a question of like general implication suggest itself. Granted that in the ovum there is present something which we may call the germ of consciousness somehow associated with the protoplasmic material of which that ovum is constituted. How comes it that, in the adult dog, consciousness is associated with the brain? Why is the association of consciousness concentrated, so to speak, in this one tissue of the many which arise during the differentiation of development? That the association is so concentrated or specialised is now generally admitted to be the fact. We speak indeed of the skin, the palate, the nose, the eye, the ear, as each in its kind sensitive. But none the less we believe that the seat of consciousness is the brain or some part of it. Only when the nerves running inwards from skin, palate, nose, eye, or ear, have conveyed their appropriate stimuli to the brain, does that organ tingle with the accompaniment of consciousness. There and there only does consciousness "emerge"; not in peripheral sense-organ or ingoing nerve. But why? How comes

it that there is this peculiar association of consciousness with the functioning of a particular organ?

Perhaps we are told that consciousness is the special product of brain-tissue. But let us note that the word "product" is here used in an unwonted sense. We are not likely, it is to be hoped, to fall into the crude and demonstrably false materialism expressed in the formula, "as the liver secretes bile, so does the brain secrete consciousness." Consciousness being immaterial, the second and fourth terms are incommensurable, and the formula is sheer nonsense. Nor are we likely (though here there is greater danger) to fall into the more subtle error of regarding consciousness as a mode of energy. "Granted," says Professor Tyndall, "that a definite thought and a definite molecular action of the brain occur simultaneously; we do not possess the intellectual organ, nor apparently any rudiment of the organ, which would enable us to pass by a process of reasoning from the one to the other: the chasm between the two classes of phenomena would still remain intellectually impassable." Consciousness is something *sui generis*. It is neither matter nor energy. It may accompany the transformations of energy in the dog's brain; but to the category of these transformations of energy it does not, and, for any clear thinker, can not belong. And if we are told that the word "product" is used in the sense implied by Professor Huxley when he speaks of phenomena of consciousness being "called into existence" by physical processes; then we must again ask whence they are called into existence. We do not now speak of matter or energy being called into existence from a shadowy nowhere. When a cloud is called into existence on a mountain peak we know that the material particles have only assumed a new form. When the electrical current is called into existence or generated as we phrase it, we know that we are dealing with one of the many transformations of energy. And when phenomena of consciousness are said to be called into existence, we have a right to ask: Do you mean, by this phrase, creation *ex nihilo*? Or do you mean, origin by transformation? And if the latter, transformation of what?

Having thus opened up these several questions, all of like im

plication, let us now endeavor to set forth the answer which seems most philosophical and most closely in accordance with scientific analogies. And to this end let us consider the living dog. His frame is pulsating with life and restless activity, and somehow associated with the transformations of energy in that brain of his there is consciousness—or what in the dog is the analogue of that consciousness with which alone I can claim any acquaintance at first hand, my own. Were his skin and the walls of his skull as transparent as glass; did the molecular vibrations of his brain lie open to the keenest scrutiny of the physical investigator; could we trace in detail all the varied and orderly transformations of energy of which that brain is the theatre; the accompanying consciousness would still be beyond our reach. *We* might follow the changes of energy; he alone would feel the states of consciousness. But suppose that the dog dies. His body lies before us stiff with the *rigor mortis*. If we had weighed it previous to death, and if we were to weigh it again after death, the scales would give us no information of the departure of anything material. All signs of consciousness, however, are gone. And could we see through skin and skull into the brain, which during life was the theatre of so complex and orderly a sequence of transformations of energy, we should find that it was still and motionless. It is true that we cannot actually do this. But we know that, whereas, during life, the functional action of the brain gives rise to certain material products, at death the production of these substances ceases. We are therefore justified in saying that, omitting minor qualifications, the orderly transformations of energy in the brain and the concomitant consciousness cease together at death. Closely associated during life, varying together in health and sickness, ceasing together at death, what is the nature of their connection?

On the hypothesis of scientific monism it is believed that they are different aspects of the same phenomena: that what objectively to the physical investigator are transformations of energy in the brain, are subjectively to the dog states of consciousness? Let us look into this hypothesis. Let us see whither it will lead us; and if it will in any way help us over some of our difficulties. But first

let us pay a moment's attention to the impatient exclamation which some may feel inclined to interpose, that this assumption of the ultimate identity of brain-energy and consciousness, the two being respectively the objective and subjective aspects of the same occurrences, does not in the least do away with the mystery of the matter. That the same two occurrences should have different aspects, objective and subjective, is, it will be said, just as mysterious as that two separate existences energy and consciousness should be associated together. Of course it is. I should be shallow and pretentious indeed if my object were by any *hocus pocus* to attempt to hide the so-called mystery. All ultimate facts are mysterious. The fall of a stone to the ground is to-day as mysterious as it was in the days before Newton; the phenomena of life, as mysterious as in the days before Darwin. Our advances in science and in thought may do away with minor mysteries, but they leave the great ultimate facts of nature as mysterious as before. The end of our explanations is always to bring us face to face with the inexplicable. Not, therefore, in any hope of doing away with an ultimate mystery do I suggest that we look into and follow out some implications of this so called identity hypothesis.

Let us regard the matter from the objective aspect first, from the side to which the occurrences present themselves as transformations of energy. The state of consciousness being *ex hypothesi* accompanied or "called into existence" by certain complex and orderly molecular vibrations in the brain or some part thereof, we have to note that from the physical point of view these molecular vibrations constitute an exceeding complex and orderly mode of energy. It is upon this energy that we must fix our attention; the material structure of the brain being what we may call the vehicle of its manifestation. I am anxious that the reader should carefully follow me here. We are too apt to regard the *structure* as the essential thing on which to concentrate our mental gaze, partly no doubt because, through the invaluable labors of microscopists, we know so much that is definite about this structure. But a more penetrating insight enables us to see that the structure is merely the necessary basis of what is the really important thing—the man-

ifestation of energy. The material structure of a steam-engine is of importance. But why? Because it is the vehicle for the performance of work. That is the really essential part of the business. In like manner nerve-structure is of importance. But why? Because it is the vehicle for what Professor Huxley happily termed the neurosis, the complex and orderly manifestation of energy. The essential importance of looking at the *going* machine, at the performance of work, at the energy of the matter in motion, not merely the material structure that is moved—the essential importance, I say, of fixing our attention on this, being fairly grasped, we may now proceed to enquire from what the complex and orderly vibrations of the dog's brain have been evolved. In the fertilised ovum from which the dog was developed, (and the same is true of the amœboid ancestor from which, hypothetically, the race of dogs has been evolved,) there is certainly nothing approaching the orderly complexity of these molecular vibrations. But there are simpler organic modes of motion from which these complex molecular vibrations have arisen by a continuous process of development. It is from these simpler modes of energy in the simpler organic substance of the ovum that the more complex modes of energy which characterise the workings of the dog's brain have been evolved. In the development of the ovum into the embryo, and thence into the puppy and the dog, we may trace step by step all the stages of the evolution of those material structures which are the vehicles of these special manifestations of organic energy. We may watch the further and further differentiation of the nervous tissue, and the fashioning of the brain and its parts. It is true that we cannot indicate the exact moment when, in the increasing complexity of the tissues, the simpler forms of organic energy pass into the higher form of brain energy accompanied by consciousness. But that is just because it is a continuous development, an evolution. That the passage from the one into the other does actually take place we are bound, by all the canons of logical reasoning, to admit. It is only during life, however, that neurosis occurs or is possible. A great number of modes of organic energy proceed side by side in the pulsating tissues of the living dog, their orderly continuance

being what we term *life*. And only in and through their orderly continuance is the maintenance of the structure of the tissues rendered possible. The organic structure is like a spinning top. Only so long as it spins and manifests its proper energy is its stability maintained. All around it are forces which tend to make it totter to its fall. But so long as it spins freely it can resist all minor attempts to upset its stability. And when the dog dies; what happens then? The molecular vibrations of the brain in common with all other forms of organic energy cease. The top no longer spins; and the structure totters to its fall. Decomposition sets in. The orderly organic changes which characterise life, give place to the destructive changes which characterise decay. But according to the law of the conservation of energy, although there is decomposition of the tissues of which the body was composed there is no destruction or annihilation of energy. The particular modes of energy through which the body was instinct with life pass away; but only to give rise to their equivalents in other modes of energy. Just as the puddle in the road disappears, but only to give origin to an equivalent mass of invisible water-vapor; just as the candle disappears, but only to give rise to its equivalent mass in the products of combustion; so throughout life and in death the energy which throbs in the tissues neither appears nor disappears except at the expense of, or to the gain of, other modes of energy. Life is like a vortex in a rapid stream; on surrounding energy it is dependent for its continued existence; into surrounding energy it melts away. And this is true not only of individual life but of life in its entirety. Some believe that the vortex had a natural origin, the organic being evolved from the inorganic. Others hold that it was through the direct interposition of the finger of God that the tiny vortex of primitive life was set a twirling. Be this as it may, once initiated the vortex of life is dependent on surrounding stores of energy.

Turning now from the objective aspect to the subjective aspect we pass from neural processes to states of consciousness. In the language of the identity hypothesis, here provisionally adopted, the states of consciousness in the dog's mind, are the subjective aspect of what, from the objective aspect, are the molecular vibrations of

his brain-tissues. And as in considering the matter objectively, so now in regarding the mental aspect, we must ask from what the complex and orderly states of consciousness of the dog's mind have been evolved. In the fertilised ovum from which the dog is developed, (and the same is true of the amœboid ancestor from which, hypothetically, the race of dogs has been evolved,) nothing so complex as a state of consciousness is to be found. From what then have the states of consciousness been evolved? Do we not seem forced by parity of reasoning to answer: From something more simple than consciousness but of the same order of existence, which answers subjectively to the simpler organic energy of the fertilised ovum? Such, at any rate, is the hypothesis which appears to me the most philosophical and the most logically consistent. It requires, however, no little effort of thought to conceive the existence of those elementary states from which consciousness may have had its origin. We may be aided in doing so, perhaps, if we fix our attention on the close association of brain-energy and states of consciousness, regarding them as *distinguishable* but not *separable*. Now the nervous energy of the brain is extraordinarily complex; and yet we believe that it arises by a process of continuous development from the much less complex energy of the fertilised ovum. In the ovum there is no brain-energy; there is only the far simpler germinal energy from which it is evolved. So too, the consciousness in the dog's mind is wonderfully complex; but if it has arisen by a process of development, it must have been evolved from something of like nature only indefinitely simpler. May we not fairly suppose, therefore, that in the fertilised ovum, though there is no consciousness, there are the germinal states from which consciousness may be evolved? Or to put the matter tersely, may we not say: As the complex molecular vibrations of the brain are to the simpler molecular vibrations of the ovum; so are the complex states of consciousness associated with the former to the simpler states of infra-consciousness, if we may so call them, associated with the latter? It is the association of consciousness and infra-consciousness with energy—its objective manifestation—that is the distinguishing feature of the view which I am endeavoring to set forth. Concomitant

with the evolution of higher modes of organic energy from those lowly modes which alone obtain in the ovum or the amoeba, is the evolution of consciousness from lowly modes of infra-consciousness.

It is true that it is only through the exercise of the conceptual faculty of reason, never through the senses or by direct perception, that we can reach this suggested infra-consciousness. But this will hardly be regarded as a valid objection by those who believe in the existence of the ether, or by those who adopt the atomic theory, neither of which could be reached by the senses or by perception alone. Still less will it be regarded as an objection by those who have grasped the distinction between energy as manifested in the objective world, and consciousness as inevitably subjective. Of no consciousness other than our own have we direct and first-hand experience. And yet certain manifestations of energy as exhibited by other living beings force upon us the conviction that we are not alone in possessing the subjective attribute of consciousness. That not only the dog and the elephant, but the bee also and the spider are endowed with this attribute and are conscious, though not self-conscious, few of us doubt for a moment. But their consciousness is presumably far simpler than ours. Carrying this simplification yet farther down the scale of animal life, we reach in the jelly-fish, the sea-anemone, and the sponge, forms of life which can hardly be said to be conscious at all with a consciousness comparable to our own. Yet they would seem to be endowed with the dim foreshadowings of such consciousness. Finally in the amoeba and the monad we have these dim foreshadowings reduced to the lowest terms that are suggested by the study of organic life. If, then, in the series of organic forms, down even to the lowest, we admit consciousness or its foreshadowing, though it lies and must ever lie beyond the reach of our senses, why should we hesitate to generalise our belief in logical and scientific form, and hold that all organic modes of energy are associated with conscious or infra-conscious states? * It may perhaps, be objected that such a view, carried to its logical conclu-

* I have elsewhere (*Animal Life and Intelligence*, p. 467) suggested the term *kinesis* for the manifestation of energy, and the term *metakinesis* for its conscious or infra-conscious aspect.

sion involves the supposition that all the tissues of the body are conscious or at least infra-conscious, whereas it is a well-established scientific induction that consciousness is specially associated with the nervous tissue of the brain. I see no reason, however, why this conclusion should not be accepted. If the organic transformations of energy in the ovum are associated with what for lack of a better term I have here called infra-consciousness, then there are two possibilities. Either the accompanying consciousness is *entirely* concentrated in association with the molecular vibrations of the brain; or it merely becomes *dominant* in the functioning of that tissue and continues in the dim infra-conscious condition in the other tissues of the body. Now to judge from our own experience it is only the dominant molecular vibrations in the brain that are accompanied by the clear light of consciousness. The sub-dominant neural changes are indeed accompanied by a dim sub-consciousness. But there are many molecular changes (even in the cerebral hemispheres themselves where consciousness is "called into existence") which do not rise to the level of consciousness at all or are quite lost in the glare of that consciousness. Why this should be so I am not prepared to say. It seems to be a law of our mental being. Certainly it is convenient that it is so; and it may have been fostered or established by natural selection. We all know the sense of confusion that arises when, in certain states of intense nervous excitement, a host of ideas are crowding up into dominance and jostling each other for supremacy. An organism so constituted that such a state of things was normal, would, we may suppose, stand but a poor chance of survival. Hence perhaps there has arisen that due subordination of conscious, sub-conscious, and infra-conscious states which characterises the normal life of conscious beings. Having regard, then, to the cerebral hemispheres where consciousness emerges, not all the molecular changes there transpiring rise to the level of full consciousness. There is not a little of what Dr. Carpenter used to call unconscious cerebration. We seem forced to admit the existence of submerged states of consciousness; states which are infra-conscious, but which may become conscious at any moment by rising into dominance. And if in the cerebral hemi-

spheres there are infra-conscious states, why should there not be associated with every molecular thrill of the living body yet lower states of infra-consciousness too deeply submerged even in man to become dominant?

It is, however, one thing to show that there is no insuperable objection to accepting the existence of such infra-conscious states, if such existence be otherwise probable, and another thing to establish this probability. And this leads us back again to the grounds on which their existence may fairly be regarded as probable. We are told that the mental faculties of the dog in common with his physical or organic frame, have arisen in the course of ages by a process of development. It is clear that such a statement is intended to apply to the living dog with active faculties; to a *going* mechanism, or rather organism which is also conscious. Well and good. The material structure has been evolved from lower forms of matter: the organic modes of energy (in virtue of which he lives), from lower forms of energy; the mental states (in virtue of which he is conscious), from—what? I suggest in continuation and conclusion of this sentence—from lower forms of infra-consciousness; that is to say, of what is of the same order of existence as consciousness, but has not yet risen to the level of consciousness. Many people will no doubt see no necessity for such a conclusion. It is making an unnecessary bother, they will say, about a very simple matter. At some undefined stage of organic evolution—perhaps when nervous tissue had its genesis, perhaps earlier—consciousness began to dawn and has since developed in clearness and brightness during the evolution of higher and higher organisms. According to this view, the ascending curve of evolution is divisible at some undefined point into two portions: of which one represents organic evolution previous to the dawn of consciousness; the other organic evolution subsequent to the dawn of consciousness. But the question at once suggests itself: From what did consciousness dawn at this undefined point? In answer to which there are some who do not hesitate to reply that the consciousness arose out of the physical conditions; that when the rhythmic dance of organic molecules reached a certain intensity and intricacy consciousness was developed. There is, in-

deed, a certain class of nerve-physiologists, or of medical men who write on nerve-physiology, who, if they do not hold that states of consciousness are generated from the energy which accompanies the working of the brain-tissues, at any rate write as if this was their belief. But such a view is quite untenable. If there is one thing clearly established, both by those who have approached the matter from the scientific side, and by those who have approached the matter from the metaphysical side, it is that the distinction between energy and consciousness is radical and absolute. No conceivable increase in the orderly complexity of the molecular vibrations of brain-tissue could give rise to that consciousness which differs *toto cælo* from any manifestation of energy.

And yet though stated in a form that is philosophically false, and therefore misleading, the conclusions of these earnest students of nerve-physiology are practically sound. Grant, for the moment, that the states of consciousness in the dog's mind are the subjective aspect of the molecular energy of his brain. Then the following diagram (Fig. 1.) will represent the ascending curve of development which, from the objective aspect, is a development of modes of energy, and from the subjective aspect is a development of modes of consciousness.

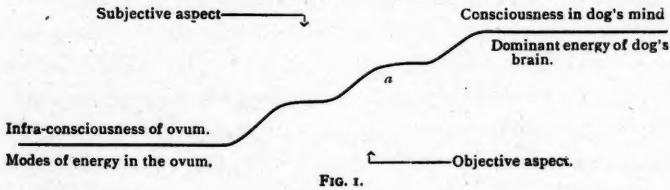


FIG. 1.

Now what the nerve-physiologists are sometimes apt to do is, at some moment of development say *a*, to change their point of view, from the subjective aspect which deals with consciousness to the objective aspect which deals with energy. Their conclusions are practically sound because they are still dealing with the same developmental curve. They state these conclusions in language which is philosophically misleading because they suddenly jump from the subjective aspect to the objective aspect and ignore the great distinc-

tion between the two. When they say that consciousness emerges from the physical conditions at *a*, they presumably mean that at this point we are first justified in speaking of consciousness or the subjective aspect in anything like a human sense. But is it not more logical to hold that, just as from the objective standpoint the complex energy of the dog's brain has been developed from the simpler energy of the ovum, so from the subjective standpoint, the complex consciousness of the dog's mind has been developed from the simpler infra-consciousness of the ovum? And if we do not accept this view, do we not seem committed to the unevolutionary doctrine that the conscious aspect suddenly makes its appearance, without those lowly germinal beginnings which it is of the essence of any theory of development to postulate?

It will perhaps be said that all this assumes an identity hypothesis, with its supposed double aspect, which is not accepted by the majority of men of science. Let us look at the matter, therefore, from what would seem the only other point of view open to one who accepts the theory of development as applicable alike to the dog's mind and to the dog's body. If states of consciousness and the molecular transactions in the brain are not different aspects of the same occurrences, they are parallel, concomitant, or associated phenomena. Our diagram will thus become that given below.

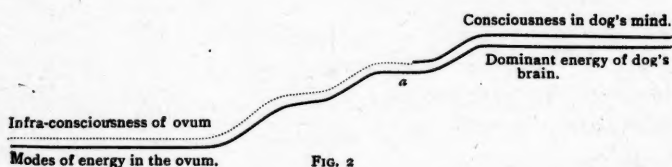


FIG. 2

Here the parallel or associated phenomena occur together at the higher end of the developmental curve, and, at *a*, the consciousness is supposed to emerge. On this view there is less justification for the nerve-physiologists' assertion that it arises out of physical processes; for it is not simply another aspect of these processes, but something wholly different arbitrarily associated with them. Even on this view it would seem more logical to suppose that since

the association of mental states with the dominant neural energy is of normal occurrence from *a* onwards, the consciousness there emerging has been evolved from infra-consciousness parallel and concomitant with the physical processes in the ovum. If this be not so, we may once more ask: From what has the parallel line to the right of the diagram been evolved? We cannot say from the neural conditions without changing our point of view and ignoring the great distinction between matter and energy on the one hand and consciousness on the other. From what then has the consciousness been evolved, if not from something of like nature only indefinitely simpler which has here been spoken of as infra-consciousness?

We must now take a further step, one however in which all evolutionists will not be prepared to follow us. Attention has already been drawn to the fact that those who accept the theory of evolution are not agreed in their faith—for it is on either side a matter rather of belief than of demonstration—with respect to the origin of life. Some believe that the primitive organic germs were not produced by natural development nor through any process of evolution. For such, the hypothesis I am advocating must be submitted in the following form—when first the life-energy was started by the direct interposition of the finger of God it was endowed with some dim form of infra-consciousness which in the course of evolution developed into consciousness. And presumably those who see in the *amœba* and the fertilised ovum some dim foreshadowings of consciousness may follow me thus far. But for those who believe that the organic has arisen on this earth by process of natural development from the inorganic, the hypothesis must be more sweeping in its range. We must say that all modes of energy of whatever kind whether organic or inorganic have their conscious or infra-conscious aspect.* Startling as this may sound there is, I believe, no other logical conclusion possible for the evolutionist *pur sang*. For where are we to draw the line? The states of consciousness of the higher animals have been evolved from lower forms of infra-consciousness

*In the phraseology I have elsewhere suggested, there is no kinesis unaccompanied by its metakinetic aspect.

in the amoeba-like or yet more simple protoplasmic germs in the dawn of life. But if those low forms of organic infra-consciousness were themselves evolved, from what could they arise if they were not developed from yet more lowly forms of infra-consciousness similar in kind but inferior in degree associated with inorganic transformations of energy? In any case it is here submitted that this doctrine that infra-consciousness is associated with *all* forms of energy is necessarily implied in the phrase mental evolution for all thinkers who have grasped the distinction between consciousness and energy. And if this be admitted there is disclosed, by implication, an answer behind and beyond that ordinarily given to a question which has again and again been asked—the question:—Is there a conservation of consciousness analogous to the conservation of energy? The negative answer generally given to this question results from the fact that the question itself has always been put in a form which does not admit of a satisfactory solution. There is not a conservation of consciousness any more than there is a conservation of neural energy or a conservation of electricity. There is no conservation of neural energy because this is only one mode of energy which may be transformed into other modes. Not until we have generalised energy so as to include *all* its modes can we speak of conservation in reference to it. So too not until we have generalised that universal form of existence, of which consciousness is only the highest and most developed mode, so as to include all modes, can we speak of conservation in reference to it. But so generalised I submit that there is a conservation of that form of existence which includes both consciousness and infra-consciousness, co-ordinate and coextensive with the conservation of energy.* Just as the dominant neural transformations in the dog's brain are like a special vortex in the onward-flowing stream of the world's energy, so are the states of consciousness in his mind like a special vortex in the onward flowing stream of that mode of existence which, whether it have risen to the level of consciousness or not, is still of the con-

* That is to say, a conservation of metakinesis co-ordinate and coextensive with the kinetic conservation of energy.

scious order. For the believer in scientific monism there is but one vortex, objectively presented as energy, subjectively felt in consciousness. For the dualist there are two vortices, (1) an objective vortex and (2) a subjective vortex associated with the other and "called into existence" by it. In either case the vortex is dependent for its continual existence on surrounding stores of that out of which it has arisen; and in either case the modern tendencies of scientific thought suggest conservation which is but the antithesis of creation *ex nihilo*.*

In conclusion it should be noted that this hypothesis is but a new presentation of an old speculation. It differs as it here stands from any theory of "mind-stuff" in that it regards the question rather from the dynamical than from the statical point of view. Not "mind-stuff" answering to matter but a universal conscious order or aspect of existence answering to universal energy is the leading idea I have sought to develop. In its newer form, again, this hypothesis differs from the view that "all force is will-power," or the view that "all matter is conscious," or the theory of "intelligent monads," in endeavoring, not to carry anything like *our* consciousness down into association with the simpler manifestations of energy, but rather to seek in association with these lower manifestations the germinal states indefinitely simpler than consciousness, from which nevertheless consciousness has been developed. Finally the keynote of this newer presentation is that which is the keynote of all modern theories of life and of thought—the doctrine of evolution.

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*The bearing of this conservation of consciousness and infra-consciousness (metakinesis) on Eastern conceptions of immortality and on transmigration would be an interesting theme to follow out but is beyond the scope of the present paper.

THE NEW CIVILISATION DEPENDS ON MECHANICAL INVENTION.

BY reason of his physical nature man is hampered by three wants—he needs food, clothing, and shelter. In his first and lowest stage of civilisation man lives in a state of enthrallment to nature. He dreads and worships the cruel forces of matter. But by the aid of science, and invention which flows from science, man attains domination or control over things and forces and directs them into the service of humanity for use or for beauty. The soul conquers nature by science and machinery and then it next desires to see this conquest over nature reflected in works of art. Hence it creates architecture, sculpture, painting, music, and poetry, all of these fine arts portraying man's victory over wants and necessities.

If the spectacle of pauperism and crime, the savagery that still lingers in the slums of our cities, sternly reminds us of the yet feeble hold which our civilisation has obtained even in cities—if the census of mankind proves that three-fourths are yet counted as below the line that separates the half-civilised from the civilised—yet we are wont to console ourselves by the promise and potency which we can all discern in productive industry aided by the might of science and invention. This view is always hopeful. We see that there is a sort of geometric progress in the conquest over things and forces. The ability of man to create wealth continually accelerates. The more he obtains the more he can obtain. The more each one gets the more his neighbor also can get. Even the weakling of society, the pauper or beggar, the insane, and the criminal all fare better in the centres of wealth than they do at a distance from them where

there is no wealth to beg or steal and no asylums created and sustained by wealth to shelter and heal their diseased bodies.

Wealth in the modern sense of the word, far more than in its ancient sense, is self-productive. It is capital, and capital is wealth that generates wealth. Capital represents conquered forces and things—conquered for the supply of human wants. Capital consists of natural forces yoked and set to work for food, clothing, shelter, and the facilities of human culture. The three physical wants (food, clothing, and shelter) are produced by nature—they are the chains and fetters whereby nature asserts her right to enslave humanity—to keep man in a state of thralldom.

But the Promethean cunning of man, realised first in science and next in useful machines, has succeeded in subduing the powers of nature and imposing on them the task of supplying and gratifying the very needs which nature creates in us. Nature had chained man to the task of daily toil for food, clothing, and shelter. But man turns back upon nature and compels her to take the place of human drudgery and produce an abundance of these needed supplies and bring them wherever they are needed for consumption. This is accomplished by mechanical combinations that secure the service of steam, electricity, and various devices of earth, air, fire, and water.

This self-generating wealth that exists in the shape of capital is so much on the increase that it fills all classes of our population with hopes or if not with hopes at least with discontents—and discontent is certainly the product of hope struggling up from the depths of the soul. Without the vivid perception of a higher ideal and without the feeling that it is attainable, there would not be any such thing as discontent. The average production of man, woman, and child in the United States increased in the thirty years between 1850 and 1880 from about 25 cents per day to 40 cents per day—an increase of over 60 per cent. This means the production of far more substantial improvements for human comfort. Much more wealth is created that possesses an enduring character and may be handed down to the next generation. Finer dwellings, better roads and streets, fences for lands, drainings and levelings, and the processes necessary to bring wild land under cultivation, artificial sup-

plies of water and gas, the warehouses and elevators, and the appliances of commerce—and finally the buildings and furnishings of culture, including churches, schools, libraries, museums, asylums, and all manner of public buildings. Great Britain, the leading nation in commerce and manufactures, according to the returns for 1888 (see Mulhall's "Dict. Statistics," new edition) distributed comfortable incomes of \$1000 and upwards to each family of 30 per cent. of the entire population, and the remaining 70 per cent. averaged \$485 per annum (for each family). France provided incomes of \$1300 per annum for 24 per cent. of its families. This shows what great capitalists are doing for the creation and distribution of wealth. Italy showed by its income returns that less than 2 per cent. received incomes of \$1000 and upwards, while 98 per cent. of the families averaged less than \$300 income. Italy makes little use of steam power and labor saving machines.

If science progresses and its concomitant, useful invention, progresses as fast for the next hundred years as it has done for the past forty years, the vision of Edward Bellamy of comfort for all will be realised without the necessity of any form of socialism. There will be comfort and even luxury for all who will labor a moderate amount of time.

Science inventories nature and discovers properties and possible combinations. Invention uses these combinations to meet mechanical problems. Can any one doubt who looks into the state of science and its continually improving methods that the conquest of nature will be more rapid in the coming century than it has been in the past century?

But we are challenged by the question: What is the good of annihilating the necessity for bodily toil? Will not man degenerate spiritually as he comes to possess luxury at cheaper and cheaper rates? These material advantages gained by useful invention which create a steady and permanent supply of food, clothing, and shelter, are they not mere sumptuary provisions and do they imply progress in civilisation? To this challenge we reply by pointing out the relation of invention to the communication of intelligence and the diffusion of knowledge by newspaper and book.

In the first place it is obvious that the three classes of employments devoted chiefly to the supply of the physical wants—namely agriculture, manufactures, and commerce—are undergoing change by aid of mechanic invention in such a manner as to bring the laborer everywhere more and more into relation with his fellow men. In other words commerce increases more and more, and becomes a part of all employments. In exchanging goods each gets something that he needed more than what he parted with. But the best result of the exchange is the acquaintance formed between producer and consumer. Each has learned something of the other's ideas, modes of looking at the world and habits of action. Each one's life is enriched by the addition of the knowledge of the life of the other.

Man as a spiritual being has for his problem the exploration of the two worlds—the worlds of nature and man. The problem is too great for the individual and he must avail himself of the work of others. Each man may inventory a small portion of nature different from all others. Each one may live a life different from another's. But the individual gets a very small glimpse of nature by the aid of his own senses. He gets a very small arc of the total of human life in his survey of his own biography.

But by intercommunication each one may extend and supplement his own observations of nature and of the experience of life,—he may avail himself of the aid of the sense-perceptions of others and still more of the aid of the thoughts and reflections of others.

We see at once that man is man because he possesses and uses this means of re-enforcing his individual observations and reflections by those of the race. Man is an individual endowed with the power of absorbing the results of the race. We have with this a definition of civilisation and a standard of measurement by which we may determine the rate of progress. Advancement means that there are improved means realised by which each individual can give to the rest of mankind the results of his living and doing and thinking and at the same time share in the lives, thoughts, and deeds of others.

Looked at in the light of this definition we shall be enabled to claim progress in civilisation on substantial grounds. We shall be able to see something more hopeful in the material progress prom-

ised us in the coming century than the cheap supply of bodily comforts. We see a progressive increase of intercommunication which will enable each individual to command the results of the rational intelligence of all mankind.

Man is first a speaking animal and next a writing animal. Each word that he uses expresses a general meaning. Each word therefore stores up an indefinite amount of experience. All men may pour into it their experience and by it recognise the experience of others. The art of writing at once increases infinitely the possibility of intercommunication because it preserves the experience recorded for persons widely separated in space and far removed in time. It renders every *where* in some sense a *here* and every *when* a *now*. But mechanic invention comes to the aid of speech and the elementary arts of writing by printing with movable types. Printing and gunpowder are two great elementary arts both attributed to the Germanic race—the two wheels of modern civilisation so to speak. But the Anglo-Saxon has added the steam engine and the telegraph. The one makes locomotion possible to an increasing degree and the other makes instantaneous intercommunication with all places possible.

Armed with these instrumentalities our modern civilisation lives in a sort of spiritual border land. It looks across the frontier and is in a constant process of interaction with all other nations. The great instrument of this process is the daily newspaper. Our people are becoming from year to year a travelled people—in a short time the per cent. of the population that has crossed the ocean has doubled. The per cent. that has visited the western border land has quadrupled. But the number of people who live in constant daily interrelation with all mankind by aid of the daily newspaper has increased a hundred fold within a single generation.

The test of a civilisation is its efficiency in re-enforcing the endeavors of each individual so as to give him access to the labors of the world. We are approaching a spiritual civilisation as well as an era of the general distribution of wealth.

W. T. HARRIS.

RELIGION AND PROGRESS.

INTERPRETED BY THE LIFE AND LAST WORK
OF WATHEN MARK WILKS CALL.

ON August 20, 1890, died Wathen Mark Wilks Call, M. A.,—a spirit finely touched to fine issues. The posthumous work before me revives the sense of personal bereavement, but soothes it with the satisfaction of holding another interview with the beloved scholar on themes that through many years engaged our conversation. Here is a casket of golden thoughts cast up from the deep where went down the white-winged ship freighted with such treasures. The general world is unconscious that it is poorer; its ports and marts had little welcome for the dainty wares of this unfamiliar bark. Many an American thinker will through this specimen of the sunken treasures realise the world's loss when it is irreparable; and some who used to hover around the silver sail now vanished, and come ashore laden with its gifts, have wondered that this writer, valued by Mill, George Eliot, and the scholarly English circle, should have courted obscurity rather than fame. He was not indolent, though his published volumes were few: "Lyra Hellenica" (1842), "Reverberations" (1849, second edition 1876), "Golden Histories" (1871). Besides his poems, his contributions in the reviews,—some, like "The Nero Saga" (*Theological Review*, July, 1871), equal to volumes,—would make a substantial and important collection. There is enough thought and learning in his poems and anonymous articles, to have earned fame for an ambitious and pushing author. Why

then did the world get so much less than it ought to have got from this fine and active brain, and why is he so little known?

Many years ago I heard from his own lips the story of his life, which is partly told in the fifty pages that introduce this book, under the title "A Chapter from my Autobiography." It will there be seen that even so late as thirty-six years ago the finest minds and hearts that could not accept creed-dogmas might be almost mortally wounded. From that time he lived and wrote as from a retreat. The actual case, as he told it me, was that his sister, a widow, left him executor of her last will and testament, and the guardian of her children. He was tenderly attached to this sister and to her children. She knew his opinions and his doubts. When he went into the court for confirmation of his trust he was confronted by the postscript of a letter he had written to a supposed friend intimating his "dissent from the creeds of the churches." For this mild and vague heresy he was prevented from acting as the guardian of his sister's children, and fulfilling a sacred trust.

At this time he was a clergyman in the Church of England, which to-day contains many ministers more unorthodox than Mr. Call was when he received this crushing legal blow. This public disgrace of a sensitive scholar, the loss of position, the alienation of friends, added to the grief of seeing his sister's children carried to strangers, parted him from the world. He seemed to have no place in it. Stunned, lacerated, he had no heart to enter on any new profession. But from his retreat came the poems, pathetic but hopeful, entitled "Reverberations," some of which are sung in the liberal chapels of England. Deified egotism and vengeance had brought home to him all their heartlessness: all nature was overcast with this chilling cloud.

Silently bearing his grief, he gave himself to the search for truth in those matters which had been predetermined for him by a thousand subtle influences and associations. Born in 1817, he had graduated at Cambridge,—the chief poet of its Magazine,—had passed through his Shelleyan phase of scepticism, and entered the church (1845) through one of the many casuistical blind-ways provided in that old minster for those who hesitate at the main portal.

Eleven years were occupied in passing from one to another theoretical cloister or tower of the venerated church before he finally discovered that it had no place for him. Nor was there any church which he could honestly enter. He must be the hermit of his truth. But in that retreat, where the lonely scholar must eat his own heart, the healing hand of a true divinity found him.

Love found him. He married (1857) a lady whose beauty was the expression of her genius. Her father was Dr. Brabant, the friend of Strauss, and founder of the *Westminster Review*. In early life she married C. C. Hennell, author of "An Inquiry into the Origin of Christianity,"—a work which made a deep impression on Theodore Parker, who made it the subject of an article in the old *Dial*. Miss Brabant, versed in ancient and modern languages, did excellent work on the *Westminster Review*, assisted by her friend Marian Evans, afterwards known as "George Eliot." These two ladies, as I have heard, undertook together the translation of Strauss's "Leben Jesu," and were more than half through it when Miss Brabant married. By a contrivance of Mrs. Hennell the name of Marian Evans alone, and to her regret, appeared on the title-page. "George Eliot" thereby gained a reputation helpful to her, though somewhat embarrassing, implying as it did a knowledge of Hebrew and Greek which she did not possess.

Mr. Call's marriage was most happy. The Calls were regarded by their circle of kindred spirits as representing the true ideal union. They had together shared the friendship of the finest intellects, and had moved abreast in intellectual progress, for more than the life of a generation when parted by death.

About seven years ago trouble for the first time entered this almost sacred household. A formidable consumption of one lung set in, threatening Mr. Call's life. I have always believed that this was the long latent bequest of pious cruelties suffered in earlier life. Six years ago the case became hopeless, in its normal course, and the physicians said that the only possibility of recovery lay in a rare and difficult operation, imperilling the few months of life that might remain. The patient and his devoted wife resolved to incur this risk. A tube was inserted through the back; through it the pus

was drained from the ulcerated lung; and little by little the tube was withdrawn, by infinitesimal degrees, as the healing process went on behind it. It was a painful anxious process of many weeks. At this time, when he was kept motionless, I marvelled at his cheerful spirit; though the slightest miscarriage in the wearisome operation might prove fatal, the patient was always serene. One of his physicians, by no means sure of the result, approached him on the subject of religion, and the condition of his soul. Soon after Mr. Call gave me an account of the conversation. In religious matters the doctor had dabbled where Call had dived; it ended in the physician's being compelled to consider the condition of his own soul, and why he should be holding the religion of primitive man along with a science almost able to raise the dead.

The wonderful operation was perfectly successful. Love had healed the young man's broken heart; science had healed the mature man's dying frame. The real miracles that supplant fictitious ones, and fulfil their fables, had been brought home to him. Five happy years were added to his life, during which he wrote the important work to be hereafter considered. On a summer evening last year he passed a pleasant evening at home, ended with a game of cribbage with his wife. During the night he died painlessly of heart disease; a *post mortem* examination proved the lungs quite sound. My friend's body and mind and affections were so combined in organic unity that his very ailments had for me symbolical significance. The unsuspected failure of the heart, for instance, seems a last sequel of the spiritual lesion given him by Dogma as a parting blow: its counterpart is to me visible in the fact that after writing this work he hardly had heart to publish it. The substance of it was completed in 1887; it was entirely finished in 1889; it lay in his library one year. His wife wished him to publish it—so she told me—but he thought the world would not be interested in his views. So deep had bigotry been able to send this man into the vale of Humiliation; and what an intellect was thus discouraged may be partly estimated by those who shall read this book on "Final Causes" published by his widow.

In the last generation many young men, awakened by the song

of Byron and Shelley, started out on a new spiritual pilgrimage. Their path was at first fringed with poetic flowers, and in the distance shone the city called Beautiful. But the path at length became flinty, the city became more dim with progress towards it, and many a pilgrim turned back. Those who pressed on were unique men, so that they came to parting ways, and each had to advance on his individual and lonely path, albeit they were travelling in the same direction. The records of these pilgrimages, wherever found, are chapters in the scriptures of their generation. There is one thing common to them all,—the tenacity with which they have clung to their old faith, and after it to their old church, until beaten off by bigotry or by conscience. “My God, my God, why hast thou forsaken me?” It was no mere cry, but a question reaching far into the ages, and stirring innumerable crucified hearts that have found no voice. Men do not forsake their God; their God forsakes them. They have invested some ancient name with all the pearls of their heart; they have idealised him as wisdom, justice, love, compassion; but no sooner do they think an honest thought, or maintain justice and love against unjust and heartless dogmas, than their Good Shepherd beats such tender lambs with his crook and sets the wolves on them. Yet even then, so long as they can, they keep in the fold, and lift their lacerated hands in prayer. They will even practice some self-deception that they may continue the old formulas after the truth has forsaken these.

Mr. Call's youthful scepticism,—a spell wrought by Byron and Shelley,—being chiefly the expression of others' experiences, and with but little root in his own, carried him no further than the study of philosophy and theology. It was not deep enough to prevent his entering on residence in the University of Cambridge with a view of becoming a clergyman. The struggle being not yet in the arena of his own life and heart, but a combat for his soul between the Humes and the Jeremy Taylors, poetic sentiment easily carried the day. His nature clamored for a realised ideal, and the Church captivated him. “The church, as the embodiment of celestial truth, as the aggregate of noble and beautiful spirits, dead or living, appeared a sublime conception.” When a youth falls in love does he

consider whether his beautiful lady's bloom may not be hectic, or hereditary cancer be hovering near the fair breast? Our young scholar weds our Lady of the Litany amid the light of stained windows, and the white-robed choristers. He presently finds that the lovely creature insists on his preaching the doctrine that all who do not yield to her charms are to be burnt at the stake eternally. "Human philosophy had failed to explain to me the mystery of existence; Christian philosophy explained it to be the perpetuation of sin and misery, intensified by omnipotent intervention." Recoiling from this the young clergyman went through years of critical investigation; he mastered the exegesis of the Germans and the French; and at length found himself a simple believer in the religion of Humanity. He, a clergyman of the Church of England!

In the fifty preliminary pages of this posthumous book, comprising "A Chapter from my Autobiography," we have a succinct and useful summary of the crucial criticisms under which biblical authority and supernaturalism have been relegated to professional casuistry. This we will not study here—profoundly interesting as it is—but dwell for a little on the situation in which the scholar found himself.

"While I had thus been working my way through darkness into light—the sober light of sad reality—life had been bringing to all who belonged to me, as well as to myself, varied experiences of pain and sorrow. For their sake I had already done violence to my better nature. Was I now to render the previous sacrifice nugatory? Was the black shadow of my unbelief to enfold those who had already more than their share of the burden of life to sustain? Sympathising friends had early encouraged me to retain my position in the church. A beneficed clergyman, advanced in years, whose studies had ended, like my own, in the abandonment of dogmatic Christianity, had drawn up a statement of the motives which, as he argued, justified him in the retention of his preferment. This statement was forwarded to me. A celebrated and venerable German professor had sent me a message deprecating the abandonment of a post which, he thought, I might continue to occupy without dishonor to myself and with profit to others. I had hitherto deferred

to the judgment of persons whom I regarded as superior to myself in knowledge of life and in ability to determine questions of moral obligation; but the progress of unbelief and enlarged experience decided me, at last, on the adoption of an independent course of thought and action. Taking counsel of my own heart, I resolved to terminate a conflict which had become intolerable. Painful and singular complications preceded, accompanied, and followed my retirement from the English Church."

Here is the "Robert Elsmere" of real life. Since Mr. Call left the Church of England, thirty-five years ago, it has become a largely rationalistic institution. Legal prosecutions of clergymen for heresy have resulted in proving that the evangelical and orthodox have no more right to the Church, in Law, than the liberals. They were usurpers of authority not guaranteed by the constitution, in which there is nothing requiring a clergyman to believe in hell, or the devil, or miracles, or the infallibility of the Bible. Many clergymen are now honestly preaching a simple theistic and humanitarian religion, and when told they ought to leave the Church need only reply, "If you think so you have a right to prosecute me."

The English charlatan who calls himself "Father Ignatius," who could only make himself ridiculous as a heresy-hunter abroad, seems to have found the Episcopal Church in New York provincial enough to take him seriously. He would never venture to suggest the prosecution of a Broad Churchman at home. His ignorant tribe have too keen a recollection of their severe falls in grappling with Bishop Colenso, and the authors of "Essays and Reviews." We have, however, to deal with America, where the sects, by departure of some of their best brains, seem falling more and more under control of their illiberal constituents, though the consecration of Bishop Phillips Brooks show that reactionists will not have it all their own way. The passage I have quoted above bears upon a moral problem which has already become urgent among us, and in the progress of inquiry must inevitably become of very serious importance to large numbers of ministers and their families. I therefore introduce here a little digression on this subject.

What is the moral duty of a young minister who finds himself

occupying the pulpit of a denomination in whose generally accepted doctrines he has ceased to believe? The New York *Evening Post* recently declared this to be a plain moral question. If—thus it argues—a man has voluntarily entered the ministry of a church, and afterwards forms opinions which, if known, would have prevented his admission, he is morally bound to resign. But the question is much more complex than that. In a majority of cases the minister has not entered “voluntarily,”—within the genuine moral scope of that term. His orthodox parents, abetted by their preacher, have kept light from him, repressed his reason, imprisoned him in Sunday schools and prayer-meetings; he has been accorded no free choice; he has been led as a captive, before his intellect was capable of judgment, artificially terrified about his soul, and the world’s danger of damnation, and at length found himself in the pulpit. When the victim finds himself disabused of these fictions, what is his duty? In my belief it would be immoral for him to resign without having first secured a public decision of his church on the issue. His paramount obligations are to the community in which he lives. He is morally bound to preach the truth as he sees it, openly, honestly, plainly. He cannot utter the discredited creeds, prayers, or dogmas. But he has a right,—nay he is bound,—to throw upon the church which has entrapped him the responsibility of repudiating his principles and doctrines. He should say to his church: “You are responsible for the unhappy situation in which I find myself. By your zealous propaganda you frightened or persuaded my parents, my friends, myself, into acceptance of dogmas I now find false. The logical result of taking you seriously was to turn from all worldly occupations, and devote my life to the work of saving mankind from a terrible doom. Now, awakened from the nightmare superinduced by you, I find myself past the opportunities of youth, the time for preparations in other professions irrecoverably lost, and a family dependent on me. The situation concerns not only you and me, but others we have involved. For years I have been laboring with you to try and persuade other youths into the same situation as my own. Something is due to them. I have deceived them and must undeceive them. You say I must be true, but you must be true also. I

have innocently reached a position which enables me to compel you to publish to the world exactly where you stand. I will clearly define my convictions : if you cannot tolerate them in your pulpit the youth will know the precise limits to their freedom they agree to in entering your ministry. If you can tolerate them they will know your liberalism. Therefore I remain here proclaiming my truth, and will not help you to cover the truth up by a resignation relieving you of the duty of proclaiming your position with equal clearness. You have got me here, and if I go now you must turn me out. So shall the cause of truth be advanced."

While this may be affirmed, I think, as a general ethical principle, it is equally true that each case must be judged by itself. The above principle depends on the condition that the ministry has been honestly entered from religious motives, there being no mental reservations at that time. It will be observed that in the case of Mr. Call the consideration entered that he had passed through a phase of Shelleyan scepticism in early youth. This had to be weighed, and perhaps may have had much to do with his determination to retire voluntarily from the ministry. He never concealed his views, however, and it is well known that great efforts are made by older preachers to beat down the scepticism that often arises in the minds of young candidates for the ministry. In such case these unwise advisers assume a large share of responsibility for the event, whether enough to justify the subsequent heretic in compelling a conflict must depend on the minister's conscience. Although, therefore, Mr. Call decided rightly, in accordance with his moral consciousness, it were by no means fair to maintain, with the author of "Robert Elsmere," that ministers who find themselves more liberal than the majority of preachers in their church should surrender to such mere superiority of physical force without testing its legality and laying on it responsibility for its exercise of power. Robert Elsmere should, on moral principles, have remained in the church. By so remaining Colenso, Dean Stanley, Charles Kingsley, Max Müller, Professor Jowett, Matthew Arnold, and others, have revealed the fact that, in their church, thought is not delivered up by law to the despotism of a majority.

The case, however, is somewhat different again where the new opinions adopted by a minister amount to an abandonment of the fundamental doctrines of his church. That may not exonerate him from demanding a formal and public declaration of the church, but this being secured, it must affect his relation to the general world. Should it be proved that he may be legally tolerated, he must then consider whether it is his legitimate means of influence, or whether he would be substituting for his own expression the mask of an extinct faith. The ethical principle above affirmed relates to the first practical step of the minister whose beliefs have changed. The progressive and inquiring mind that continues in a church where it is barely tolerated does so at great peril. Where the swift foot agrees to march with the halt the pace must be that of the halt. Sceptical minds occupying pulpits even of liberal denominations are likely to discover, should such engagements end, that they have been unconsciously arresting their own development in finding a conciliatory *modus vivendi* with the reactionary brethren. There is, indeed, a class of fine intellects, like the great English Broad Churchmen already named, whose comparatively advanced views are the result of larger learning; they have discovered that two and two are four, and gathered courage to deny that the amount is five. These constitute the right leaven by which great organisations are raised to higher standards of knowledge and veracity. But there are original and philosophic inquirers whose particular power were only buried in such organisations, without elevating them. These are due to the corps of pioneers in the direction whither the organisations are advancing. Their task is original research. These cannot wisely wear the uniform of any religious or political party.

Mr. Call was such an original mind, and after he had left the English church his course was to the maturity represented in this ripe book on "Final Causes." But had he not passed eleven of his best years in the church, out of his true habitat, we should have more fruit of this fine flavor. It is therefore a voice from his experience that here reaches us, as from his grave:

"Scepticism has been vigorously advancing in the nation—I might say, in Europe. And not only has it extended its sphere, but it includes within that sphere

some of the loftiest and profoundest intellects of the age—men renowned for vast and exact erudition, for scientific research or critical acumen. Philosophers, poets, historians, novelists, openly or silently disavow Christianity. In palaces, in lordly mansions, in college halls, in secluded homesteads, and here and there in rectory or vicarage, scepticism, if it has not a bold and fearless utterance, at least expresses itself in a guarded whisper. It becomes doubly a duty, then, when notwithstanding the general diffusion of avowed or latent unbelief, we trace everywhere the presence of a conservatism that conceals and hesitates and trembles at the doubts which it cannot suppress, that individual dissentients should candidly disclose their theological divergences. Christianity, indeed, which has had its triumphs in the past, will long conserve a portion of its power, and continue to furnish guidance not only for the unreasoning multitude, but for thousands of excellent men and women who cannot abandon the old religious ideal. But there is no final arrest for the intellectual progress of mankind."

We now turn to Mr. Call's work on "Final Causes." In an introductory chapter of eight pages he compresses the history of the doctrine of Design in nature from Anaxagoras, B. C. 500, to our own time, stating its modifications, criticisms, denials. In the second chapter a brief account is given of "Natural Theology," whose modern form is found to rest fundamentally on Newton's generalisation, that a body at rest continues at rest unless acted upon by some external force; and on the geometrical order of planetary revolutions. Starting anew from this point the human mind has discovered in the varied realms of nature apparent evidences of a supersensuous Intelligence. Kant, however, is brought to criticise Newton. "Kant notes with delight that the 'harmonical relations which excite the feelings in a more sublime manner than even the contingent beauties of nature originate in the properties of space'; and this inevitable congruity he refers ultimately, indeed, to Divine Wisdom, but directly to a common dependence on a single sovereign ground, to a unity of possibilities which it is no more difficult to conceive as self-existent than it is to conceive an Intelligent Cause as self-existent." Matter is not, then, naturally inert, but an aggregate of forms and forces, and nature a self-adjusting, self-evolving power. In a chapter on "Order and General Adaptation" it is shown that nature contains vast realms of Disorder; and alleged "special adaptations" are shown too as often as otherwise for cruelty and agony. "With

what feelings," asks G. H. Lewes, "can we contemplate the destruction of such an organism as that of man for the sake of some microscopic animal made to live upon it? With what feelings can we think of a human being sacrificed to the growth of cancer-cells? What is the contrivance and benevolence here?" Particular illustrations of design on which teleologists have depended,—the eye, the bee's cell, the bird's wing—are examined with critical and scientific care, and imperfections, gratuitous and cruel if ascribed to omnipotent wisdom, found everywhere. "To assert that the Creator of the world is infinitely powerful and infinitely wise were to deny that he is infinitely good."

To escape the dilemma just stated, some theists postulate a "limited or constitutional deity." Dr. Martineau's idea of a "material datum objective to God" is an effort to relieve the deity of responsibility for the evils of nature, but Mr. Call declares the selection of "power" as the limited attribute is arbitrary. We have, he thinks, no more logical right to limit the deity's power than his intelligence, or his benevolence. (This is doubtful, however, and requires more consideration than is here given it.) "The Evolutionary God" is next considered, and disproved by the uselessness and unfitness of some structures in various organisations, the often injurious character of others, (e. g. the intestinal canal called the vermiform process,) while the moral sense is still offended by the general predatory method of natural selection.

The validity of the Design argument disposed of, Mr. Call leaves to the theist whatever evidences of a deity he may find in his ideals, emotions, aspirations, intuitions. He points out that the Designer thus disproved has never been able to satisfy the intellect or heart, the like being true of the "Unknowable." The sole sacred ideal left us is that of humanity; not of the whole race but of the purer, nobler constituents of it.

As Humanity will be the sole Ideal Object to which dutiful obligation and exalted sentiment will be referred, so the world of Humanity will be the world revealed, not by divine inspiration or metaphysical intuition, but by Positive Science. The shadowy abstractions of the speculative rationalist, the fanciful conceptions of the theologian, will gradually pass away. To the Semitic explanation of the

world and of man will succeed that of Laplace and Darwin. The great and majestic truths of the stellar universe, the mysteries of life, of light, of heat, of sound; the wonders of natural history, the magic of geologic lore, the epic of man's progression in time; the exaltation, the solace, the delight which flow from poetry, music, painting, sculpture; the interest in the arts, industrial no less than æsthetic; in the fellowship of work which ameliorates the common lot; in friendships of man and woman, short of passionate love, and in the happier profounder affection of wife and husband; in all home charities and patriotic activities, and in the identification of personal 'feelings with the entire life of the human race';—all these incidents of thought and varieties of emotion and action will possess the intellect and fill the heart of future generations, in a mode and degree which we can now only imperfectly realise, and which, in the end, will leave men but little reason to regret that the raptures of saint or prophet, or the splendours of ancient theocracy, or the power and glory of the Mediæval Church, or the imposing premise of Hellenic or of Teutonic speculation, are as the dreams of a night that has passed forever away."

Have we, in this prophetic conclusion, the afterglow of a faith sunk beneath the horizon? Why should we suppose that such beautiful things will come to pass in the future? Such prophecies have hitherto been inspired by belief in an overruling and omnipotent Love. But we are now brought by science and philosophy to the misgiving of Solomon, "We are born at all adventure." Things, the sceptic may say, will grow better if man compels them so, otherwise they can as easily grow worse.

It appears to me that in the old dogma of Jehovah's curse on the world and its redemption by Jesus there is buried, as in a sarcophagus, a skeleton of human nature, and of moral history, resembling the man of to-day, and the history we are making. There was an appeal of the human heart from Jehovah to Jesus,—from the cursing to the saving deity. The terrible arraignments of nature written by some of the greatest men since Darwin's discovery have not found any one to answer them. The severest indictment of the world, perhaps, is that by the late Cardinal Newman, who declares, "Either there is no Creator, or this living society of men is in a true sense discarded from his presence. . . . *Since* there is a God, the human race is implicated in some terrible aboriginal calamity." From a deity who having created his own materials, built up a creation liable

to such calamity, mankind are once more appealing. The ancient case was Jesus *vs.* Jehovah; the present case is Humanity *vs.* the Creator of Nature. This rebellion of the moral sentiment and of compassionateness is not intellectually conscious; it goes on, and for a long time must go on, with ceremonial respect to the Final Cause of all the evils humanity tries to heal; but it appears to me certain that the heart and enthusiasm which once went out to a personal God are again turning to a crucified humanity. The humanitarian movements of our time have arisen simultaneously with the overwhelming evidences of nature's cruelty and imperfections revealed by Science. The earlier deists appealed from biblical superstitions and ecclesiastical cruelties to the God visible in the order and beauty of the universe. With the existence of evil in external nature they never grappled. Bishop Butler's "Analogy" first stated the problem. He answered deistic objections to the inhumanities of the Bible by pointing out the like in nature. Instead of answering the deists he set them on a new departure which has ended in results summed up in Mr. Call's book. The omnipotent creator of nature is following the biblical Jehovah into extinction. But the instincts and aspirations of the human heart and mind remain the same; the religious sentiment remains. The stream that is dammed up in one direction or another does not lose any force thereby; it streams into other channels if it can find such, or floods field and village if it finds none. It will beat earthward as strongly as it once beat heavenward; it will, if channels be not provided, carry away institutions as it has carried away gods and goddesses.

It has become therefore of great importance to recognise if possible the lines of least resistance along the mighty stream of religious enthusiasm, and provide that its energies shall not be destructive but conservative of human welfare. At present the most conservative force in the earth is ignorance: were the suffering masses of the world to discover, suddenly and universally, that the old creeds are fictions, their evils not providential, their heavenly hopes vain, every nation would be filled with convulsions. Fortunately the sun is not shot up into the heavens. But enlightenment progresses rapidly, and we have begun none too soon turning the rising flood of

light and fire into the human channels long obstructed by sanctified inhumanities.

Mr. Call's little book, which I hope will find publication and wide circulation in America, sums up succinctly and cogently the present religious situation, and the steps by which it has been reached. It remains for us all to sweep the new horizon with eye and telescope, to compare our observations and to catch the first ray of the star that shall point wise men to the new incarnation. To my own mind this book is one of the many signs and promises that the divine will be steadily merged into and identified with the human. Not with humanity as an objective and historical entity, as Comte believed, but with the distinctive characteristics of humanity, the supreme qualities of reason and love: this will become the ideal of the reasoners and the lovers; it will then become the creating Word, instructing all; it will finally be made flesh and dwell among us, and all shall behold in it the glory of the kingdom of Man.

MONCURE D. CONWAY.

FACTS AND MENTAL SYMBOLS.

I PERCEIVE from Dr. Carus's answer to my letter in No. 3 Vol. I of *The Monist*, that amid all the agreement of our mutual endeavors a material difference of opinion exists between us on an important question of special character. As I was not successful in rendering my thought clear on this point, I shall endeavor on the present occasion to explain *what* it was that forced me to abandon my old position (1863), which is very near to that of Dr. Carus, and to assume a new one. The supposition that our difference of opinion is merely apparent and can be adjusted by a precise agreement as to the terms employed is a very natural one in philosophical discussions. It is hardly tenable, though, when the divergent views in question arise *subsequently* to one another in the *same* person.

I must state, in starting, that I pursued in my youth physical *and* philosophical studies, particularly psychology, with equal ardor. There was hardly the question at that time of an experimental psychology, of a relation of psychological to physiological research. No more so did physics at that day think of a psychological analysis of the notions it was constantly employing. How the notions of "body," "matter," "atom," etc., were come by, was not investigated. Objects were given of which physicists never questioned the inviolability and with which they unconcernedly pursued their labors.

The fields of physical and psychological research thus stood *unconciliated* the one by the side of the other, each having its own particular concepts, methods, and theories. No one questioned, in-

deed, that the two departments were connected in some way. *The way*, however, appeared an insoluble riddle; as it yet appears to Dubois-Reymond.

Now although this condition of things was not such as to satisfy my mind, it was nevertheless natural that as a student I should seek to acquire tentatively the prevailing views of both provinces and put them into consistent connection with one another.

I thus formed provisorily the view that Nature has two *sides*—a physical and a psychological side. If psychical life is to be harmonised at all with the theories of physics we are obliged, I thought, to conceive of the atoms as *feeling* (ensouled). The various dynamic phenomena of the atoms would then represent the physical processes, while the internal states *connected therewith* would be the phenomena of psychic life. If we accept in faith and seriousness the atomistic speculations of the physicists and of the early psychologists (on the unity of the soul), I still see hardly any other course to arrive at a half-way supportable monistic conception.

It is unnecessary to set forth at length here what a prominent place the artificial scaffolding we employ in the construction of our knowledge assumes in these monadic theories as contradistinguished from the facts that deserve knowledge, and how poorly such theories satisfy in the long run a vigorous mind. As a fact, employment with this cumbrous artifice was in my case the means that effected very soon the appearance of my better conviction, already latently present.*

* A Greek philosopher to whom change of spatial configuration, pressure, and percussion were probably the only natural processes of which he had any intimate knowledge, thought out the atomistic theory. This theory we retain to-day, though it be in a modified form. And in fact natural phenomena really do exist that act *as if* the pressure and impact of very small particles were involved in their production (the dynamical theory of gases), phenomena that admit therefore by this conception of being more clearly viewed. However, this conception, like that of caloric, possesses value only in certain fields. We know to-day that pressure and impact are by no means simpler phenomena than are for example the phenomena of gravitation. The contention that in physics everything can be reduced to the motion of smallest particles is, taken at its best, a more than improper draft on the future. Utterances of this kind afford no assistance to the solution of burning special questions, but only confound, and have about the same explanatory value as the utterances of the late physical philosophy of Oken which prescribe for example with the

In the further progress of my physical work I soon discovered that it was very necessary *sharply to distinguish* between what we see and what we mentally *supply*. When, for example, I imagine heat as a substance (a fluid) that passes from one body into another, I follow with ease the phenomena of conduction and compensation. This idea led Black, who established it, to the discovery of specific heat, of the latent heat of fusion and vaporisation, and so forth. *This same* idea of a constant quantity of heat-substance *prevented* on the other hand Black's successors from using their eyes. They no longer mark the fact which every savage knows, that heat is *produced* by friction. By the help of his undulatory theory Huygens, follows with ease the phenomena of the reflexion and refraction of light. The same theory *prevents* him, for he thinks solely of the longitudinal waves with which he was familiar, from marking the fact of polarisation which he himself discovered, but which Newton on the other hand, undisturbed by theories, perceives at once. The conception of fluids acting at a distance on conductors charged with electricity facilitates our view of the behavior of the objects charged, but it *stood in the way of* the discovery of the specific inductive capacity, which was reserved for the eye of Faraday undimmed by any traditional theories.

greatest ease the course of the creation of the world by a division of zero-quantities into $+a$ and $-a$ ($0 = +a - a$).

The motion of a *single* body as a totality does indeed appear simpler at first glance than any other process, and this is the justification of attempts at a *physical* monadic theory. The thoughts of a *single* man are connected together; the thoughts of two different men are not. How can the processes of the different parts of the brain of one man be connected? In order to make the connection very intimate, we collect everything which requires to be psychically connected in a *single* point, although the connection is not explained by this procedure. Thus the psychological monadic theory is created on the basis of a motive and of an illusion similar to that on which the physical rests.

Let us assume for a moment the proposition in the text; viz., that the atoms are endowed with feeling. By the space coordinates $x, y, z, x', y', z' \dots$ of the atoms are determined in the atoms internal conditions $\alpha, \beta, \gamma, \alpha', \beta', \gamma' \dots$, and *vice versa*. For we feel by our senses our physical environment, and our physical invasions of our environment are conditioned by our sensations. The idea is then at hand, $\alpha \beta \gamma \dots$ alone being directly given, to set up by the elimination of $x, y, z \dots$ equations directly between $\alpha \beta \gamma, \alpha' \beta' \gamma' \dots$. This latter point of view would be very near to my present one, aside from the fact that the latter wholly rejects metaphysical considerations.

Valuable therefore as the conceptions may be which we mentally (theoretically) supply in our pursuit of facts, bringing to bear, as they do, older, richer, more general, and more familiar experiences on facts that stand alone, thus affording us a broader field of view, nevertheless, the same conceptions may, as classical examples and our own experience demonstrate, lead us astray. For a theory, indeed, always puts in the place of a fact something *different*, something more simple, which is qualified to represent it in some *certain* aspect, but for the very reason that it is different does *not* represent it in other aspects. When in the place of *light* Huygens mentally put the familiar phenomenon of *sound*, light itself appeared to him as a thing that he knew, but with respect to polarisation, which sound-waves lack, as a thing with which he was doubly unacquainted. Our theories are abstractions, which, while they place in relief that which is important for *certain fixed* cases, neglect almost necessarily, or even disguise, what is important for other cases. The law of refraction looks upon rays of light as homogeneous straight lines, and that is sufficient for the comprehension of the geometrical aspect of the matter. But the propositions that relate to refraction will never lead us to the fact that the rays of light are periodical, that they interfere. Just the contrary, the favorite and familiar conception of a ray as a smooth straight line will rather render this discovery difficult.

Only in rare cases will the resemblance between a fact and its theoretical conception extend *further* than we ourselves postulate. Then the theoretical conception may lead to the discovery of *new* facts, of which conical refraction, circular polarisation, and Hertz's electric waves furnish examples that stand in opposition to those given above. But as a general rule we have every reason to distinguish sharply between our theoretical conceptions of phenomena and that which we observe. The former must be regarded merely as auxiliary instruments that have been created for a *definite* purpose and which possess permanent value only with respect to that purpose. No one will seriously imagine for a moment that a real circle with angles and sines actually performs functions in the refraction of light. Every one, on the contrary, regards the formula

$\sin\alpha/\sin\beta = n$ as a kind of geometrical model that *imitates in form* the refraction of light and *takes its place* in our mind. In this sense, I take it, all the theoretical conceptions of physics—caloric, electricity, light-waves, molecules, atoms, and energy—must be regarded as mere helps or expedients to facilitate our viewing things. Even within the domain of physics itself the greatest care must be exercised in transferring theories from one department to another, and above all more instruction is not to be expected from a theory than from the facts themselves.

But instances were not lacking that demonstrated to me, how much greater the confusion was which was produced by the direct transference of theories, methods, and inquiries that were legitimate in physics, into the field of psychology.

Allow me to illustrate this by a few examples.

A physicist observes an image on the retina of an excised eye, notices that it is turned upside down with respect to the objects imaged, and puts to himself very naturally the question, How does a luminous point situated *at the top* come to be reflected on the retina *at the bottom*? He answers this question by the aid of dioptrical studies. If, now, this question, which is perfectly legitimate in the province of physics, be transferred to the domain of psychology, only obscurity will be produced. The question why we see the *inverted* retina-image *upright*, has no meaning as a psychological problem. The light-sensations of the separate spots of the retina are connected with sensations of locality from the very beginning, and we *name* the places that correspond to the parts down, *up*. Such a question cannot present itself to the perceiving subject.

It is the same with the well-known theory of projection. The problem of the *physicist* is, to seek the luminous object-point of a point imaged on the retina of the eye in the backward prolonged ray passing through the point of intersection of the eye. For the perceiving subject this *problem* does not exist, as the light-sensations of the retinal spots are connected from the beginning with determinate space-sensations. The entire theory of the psychological origin of the "external" world by the projection of sensations outwards is founded in my opinion on a mistaken transference of a

physically formulated inquiry into the province of *psychology*. Our sensations of sight and touch are bound up with, are connected with, various *different* sensations of space, that is to say these sensations have an existence *by the side of* one another or *outside of* one another, exist in other words in a *spatial* field, in which our body fills but a part. That table is thus self-evidently *outside of* my body. A projection-problem does not present itself, is neither consciously nor unconsciously solved.

A physicist (Mariotte) makes the discovery that a certain spot on the retina is blind. He is accustomed to associating with every spatial point an imaged point, and with every imaged point a sensation. Hence the question arises, What do we see at the points that correspond to the blind spots, and how is the gap in the image filled out? If the unfounded influence of the physicist's method of procedure on the discussion of psychological questions be excluded, it will be found that no problem exists at all here. We see *nothing* at the blind spots, the gap in the image is *not* filled out. The gap, moreover, is not felt, for the reason that a defect of light-sensation at a spot blind from the beginning can no more be perceived as a gap in the image than the blindness say of the skin of the back can be so perceived.

I have chosen intentionally simple and obvious examples, such as render it clear what unnecessary confusion is caused by the careless transference of a conception or mode of thought which is valid and serviceable in one domain, into another.

In the work of a celebrated German ethnographer I read recently the following sentence: "This tribe of people deeply degraded itself by the practise of cannibalism." By its side lay the book of an English inquirer who deals with the same subject. The latter simply puts the *question why* certain South-Sea islanders eat human beings, finds out in the course of his inquiries that our own ancestors also were once cannibals, and comes to understand the position the Hindus take in the matter—a point of view that occurred once to my five-year-old boy who while eating a piece of meat stopped suddenly shocked and cried out, "*We* are cannibals to the animals!" "Thou shalt not eat human beings" is a very beautiful

maxim; but in the mouth of the ethnographer it sullies the calm and noble lustre of unprepossession by which we so gladly discover the true inquirer. But a step further and we will say, "Man *must* not be descended from monkeys," "The earth *shall* not rotate," "Matter *ought* not everywhere to fill space," "Energy *must* be constant," and so on. I believe that our procedure differs from that just characterised only in degree and not in kind, when we transfer views reached in the province of physics with the dictum of sovereign validity into the domain of psychology, where they should be tested anew with respect to their serviceability. In such cases we are subject to dogma, if not to that which is forced upon us by a power from without like our scholastic forefathers, yet to that which we have made ourselves. And what result of research is there that could not become a dogma by long habit of use, since the very skill which we have acquired in familiar intellectual situations, deprives us of the freshness and unprepossession which are so requisite in a new situation.

Now that I have set forth in general outlines the position I take, I may be able perhaps to establish my opposition to the *dualism of feeling and motion*. This dualism is to my mind an artificial and an unnecessary one. The way it has arisen is analogous to that in which the imaginary solutions of certain mathematical problems have arisen—by the improper formulation of the questions involved.

In the investigation of purely physical processes we generally employ notions so abstract that as a rule we only think cursorily or not at all of the sensations that lie at and constitute their foundation. For example, when I establish the fact that an electric current of 1 Ampère develops 10½ cubic centimetres oxyhydrogen gas at 0° C. and 760 mm mercury pressure in a minute, I am easily disposed to attribute to the objects defined a reality wholly independent of my sensations. But I am obliged in order to arrive at what I have determined to conduct the current through a circular wire having a definite measured radius, so that the current, the intensity of terrestrial magnetism being given, shall turn the magnetic needle at its centre a certain angular distance out of the meridian. The intensity of terrestrial magnetism must have been disclosed by a definite

observed period of vibration of a magnetic needle of measured dimensions, known weight, and so forth. The determination of the oxyhydrogen gas is no less intricate. The whole statement, so simple in its appearance, is based upon an almost unending series of simple sensory observations (sensations), particularly so when the observations are added that guarantee the adjustment of the apparatus, which may have been performed in part long before the actual experiment. Now it may easily happen to the physicist who does not study the psychology of his operations, that he does not (to reverse a well-known saying) see the trees for the woods, and that he slurs over the sensory elements at the foundation of his work. Now I maintain, that every physical notion is nothing more than a definite connection of the sensory *elements* which I denote by *A B C . . .*, and that every physical fact rests therefore on such a connection. These *elements*—elements in the sense that no further resolution has for the present been effected of them—are the most ultimate building stones of the physical world that we have as yet been able to seize.

Physiological research also may have a purely physical character. I can follow the course of a physical process as it propagates itself through a sensitive nerve to the spinal column and brain of an animal and returns by various paths to the muscles of the animal, whose contraction produces further events in the environment of the animal. I need not think, in so doing, of any feeling on the part of the animal; what I investigate is a purely physical object. Very much is lacking, it is true, to our complete comprehension of the details of this process, and the assurance that it is all motion can neither console me nor deceive me with respect to my ignorance.

Long before there was any scientific physiology people perceived that the behavior of an animal confronted by physical influences is much better viewed, that is understood, by attributing to the animal *sensations* like our own. To that which I see, to *my* sensations, I have to *supply mentally* the sensations of the *animal*, which are not to be found in the province of my own sensation. This contrariety appears still more abrupt to the scientific inquirer who is investigating a nervous process by the aid of colorless abstract notions, and is required for example to add mentally to that process

the sensation green. This last can actually appear as something entirely novel, and we can ask ourselves how it is that this miraculous thing is produced from chemical processes, electrical currents, and the like.*

Psychological analysis has taught us that this surprise is unjustified, since the physicist deals with sensations in everything on which he employs himself. This analysis is also able to render it clear to us that the mental addition by analogy of sensations and complexes of sensations which at the time being are not present in the field of sense or cannot even come into it, is also daily practised by the physicist, as when for example he imagines the moon an inert heavy mass although he cannot touch the moon but only see it. The totally strange character of the intellectual situation above described is therefore an illusion.

The illusion disappears when I make observations (psychologically) on my own person which are limited to the sensory sphere. Before me lies the leaf of a plant. The green (*A*) of the leaf is united with a certain optical sensation of space (*B*) and sensation of touch (*C*), with the visibility of the sun or the lamp (*D*). If the yellow (*E*) of a sodium flame takes the place of the sun, the green (*A*) will pass into brown (*F*). If the chlorophyl granules be removed,—an operation representable like the preceding one by elements,—the green (*A*) will pass into white (*G*). All these observations are *physical* observations. But the green (*A*) is also united with a certain process on my retina. There is nothing to prevent me in

*The following is a legitimate question: To what kind of nervous processes is the sensation green to be mentally added. Such questions can be solved only by special inquiry, and not by a reference in a general way to motion and electric currents. How disadvantageous our remaining satisfied with such general conceptions is, can be seen from the fact that inquirers have been repeatedly on the brink of abandoning the *specific energies*, one of the greatest acquisitions we have made, simply because they were unable to discover any difference in the currents of different sensory nerves. I was impelled as early as 1863 in my lectures on psychophysics to call attention to the fact that the *most diverse kinds* of nervous processes can conceal themselves in a current. Current is an abstraction and places in relief but one feature of the process—the passage of energy through a transverse section. A current in diluted sulphuric acid is something entirely different from a current in copper. We must therefore also expect that a current in the acoustic nerve is something entirely different from a current in the optic nerve.

principle from physically investigating this process on my own eye in exactly the same manner as in the cases previously set forth, and from reducing it to its elements XYZ If this were not possible in the case of my own eye, it might be accomplished with that of another, and the gap filled out by analogy exactly as in physical investigations. Now in its dependence upon BCD . . . , A is a *physical element*, in its dependence on XYZ . . . it is a *sensation*. The green (A) however is not altered at all *in itself*, whether we direct our attention to the one or to the other form of dependence. *I see, therefore, no opposition of physical and psychical, no duality, but simply identity.* In the sensory sphere of my consciousness everything is at once physical and psychical.

The obscurity of this intellectual situation has arisen according to my conviction solely from the transference of a physical prepossession into the domain of psychology. The physicist says: I find everywhere bodies and the motions of bodies only, no sensations; sensation therefore must be something *entirely different* from the physical objects I deal with. The psychologist accepts the second portion of this declaration. To him, it is true, sensation is *given*, but there corresponds to it a mysterious physical something which conformably to physical prepossession must be *different* from sensation. But what is it that is the really mysterious thing? Is it the *Physis* or the *Psyche*? or is it perhaps *both*? It would almost appear so, as it is now the one and now the other that is intangible. Or does the whole reasoning involved rest on a fallacious circle?

I believe that the latter is the case. For me the elements designated by ABC . . . are immediately and indubitably given, and for me they can never afterwards be volatilised away by any considerations which are after all based in every case on their existence.*

*It is the transitoriness of sense-perceptions that so easily leads us to regard them as mere appearances as contrasted with permanent bodies. I have repeatedly pointed out that unconditioned permanent states do not exist in nature, that permanences of connection only exist. A body is for me the same complex of sight-and-touch-sensations every time that it is placed in the same circumstances of illumination, position in space, temperature, and so forth. The supposed constancy of the body is the constancy of the union of A, B, C . . . or the constancy of the equation $f(A, B, C \dots) = 0$.

To the department of special research having for its subject the sensory, physical, and psychical province which is not made superfluous by this general orientation and which cannot be forestalled, the relations of $A B C \dots$ only remain to be ascertained. This may be expressed symbolically by saying that it is the purpose and end of special research to find equations of the form $f(A, B, C, \dots) = 0$.

I hope with this to have designated the point in which I am in opposition to Dr. Carus, with whom I agree so much in other respects. I am obliged, notwithstanding the latter fact, to regard this point as essential, inasmuch as my whole mode of thinking and direction of inquiry have been changed by the view it involves, and because, moreover, I do not believe that the difference in question can be dissipated by any verbal explanations however exact.

This whole train of reasoning has for me simply the significance of negative orientation for the avoidance of pseudo-problems. I restrict myself, moreover intentionally here, to the question of sense-perceptions, for the reason that at the start exact special research will find here alone a safe basis of operations.

ERNST MACH.

PROFESSOR CLIFFORD ON THE SOUL IN NATURE.

NO one can read Clifford's Lectures and Essays, without feeling that, if their author is less known and valued as an original thinker than as a master of mathematical analysis, it is only because having turned the force of his genius onto mathematics first he had time to complete some work in that direction, whereas his premature death in 1879 only allowed him to give us an earnest of the philosophical work which he had it in him to perform.

The short biography which Prof. F. Pollock contributed to the first edition of his lectures and essays gives an interesting sketch of the phases of opinion through which Clifford passed. It appears that before he took his degree in 1867 and for a little time after he was a high churchman; but, says Pollock, "there was an intellectual and speculative activity about his belief which made it impossible that he should remain permanently at that stage." "He never slackened in the pursuit of scientific knowledge and ideas," and conscious of a hiatus between orthodox views and some of the results of science he yet held that religious beliefs are outside the region of scientific proof and that there is a special theological faculty or insight, analogous to the scientific, poetic, and artistic faculties, the persons in whom this genius is exceptionally developed being the founders of new religions and religious orders. This is not unlike the solution of religious doubts which Hume playfully suggested and which John Henry Newman has seriously adopted, namely that "divinity, or theology, has a foundation in *reason* so far as it is sup-

ported by experience. But its best and most solid foundation is *faith* and divine revelation." "When or how," continues his biographer, "Clifford first came to a clear perception that this position of quasi-scientific Catholicism was untenable I do not exactly know; but I know that the discovery cost him an intellectual and moral struggle, of which traces may be found here and there in his essays. Most readers of these essays would consider that Clifford is very unfair to the Christian beliefs which he had abandoned and beyond doubt he felt a certain grudge against them for having so long duped him."* The theories of Mr. Darwin and Herbert Spencer took the place in Clifford's mind of the old fashioned creed; Natural selection was to unriddle the universe, to yield a new system of ethics and education. We read that Clifford had an extraordinary power of taking up a theory provisionally, of throwing himself into it, accepting it, applying it, and of rejecting it in case it was not satisfactory; and this may account perhaps for his somewhat dogmatic assertion in many cases of crude views. There is one characteristic of Clifford however which all may emulate, and that is the candor and fearlessness of his thinking and speaking. Let me quote a few words from one of the best and most stirring of these essays:

"If I let myself believe anything on insufficient evidence, there may be no great harm done by the mere belief; it may be true after all, or I may never have occasion to exhibit it in outward acts. But I cannot help doing this great wrong towards man, that I make myself credulous. The danger to society is not merely that it should believe wrong things, though that is great enough; but that it should become credulous, and lose the habit of testing things and inquiring into them; for then it must sink back into sayagery. . . . If a man, holding a belief which he was taught in childhood or persuaded of afterwards, keeps down and pushes away any doubts which arise about it in his mind, purposely avoids the reading of books and the company of men that call in question or discuss it, and regards as impious those questions which cannot easily be asked without disturbing it—the life of that man is one long sin against mankind."

* On the whole, however, it is probable that in dealing such hard blows as he did at priests and dogmas he was actuated by sheer love of truth, and those who knew him best assure us that he was entirely free from bitterness and from the vanity which sets some people upon beating their grandmother in public by way of showing that they are grown up in their opinions.

The essay on the nature of things in themselves marks the furthest limit at which Clifford's speculation arrived. In it Clifford begins by discarding the ordinary distinction between reality and ideas, eternal object and eternal subject, of feeling and thing. The distinction is really between two orders of feeling; there is the subjective or inner order, in which sorrow succeeds the hearing of bad news, and the objective or outward in which the feeling of letting go is followed by sight of falling object. It is with the latter order that physical science concerns itself, and all the inferences of natural science are inferences of my real or possible feeling. Since an object is a set of changes *in* my consciousness and not anything out of it, is just my feeling real or possible and therefore part of me, it might seem as if we were shut up in ourselves and excluded from participation in any other reality. So we should be, says Clifford, if we made no other inferences beside those of physical science; but when I come to the conclusion that *you* are conscious and that you have objects in your consciousness similar to those in mine, I am not inferring any actual or possible feelings of my own, but *your* feelings, which are not and can never be objects in my consciousness. To feelings and consciousness thus inferred to exist in another, Clifford gives the name of *eject*, because in the very act of inference they are *thrown out* of my consciousness, recognised as outside of it, as *not* being a part of me. "The existence of my conception of you in my consciousness carries with it a belief in the existence of you outside of my consciousness. . . . How this inference is justified, how consciousness can testify to the existence of anything outside of itself I do not pretend to say; I need not untie a knot which the world has cut for me long ago." (Vol. II, p. 73.)

Thus, *objects* in the sense of things presented in *my* consciousness, my phenomena, are not the sole or chief reality; *ejects* are equally real and my conviction of your existence as a conscious being like myself is coeval and of equal weight with my belief in my own conscious existence. You and your feelings are strictly speaking the only things which are real outside of myself and my consciousness. For though my objects or phenomena are external to my body they are not outside my consciousness, but part and parcel

thereof. Nay, more than this an individual object, i. e. an object which is mine and mine only, never exists at all, according to Clifford, in the mind of man; for with each object as it exists in my mind is bound up the thought of similar objects existing in other men's minds. All the objects in fact of which we are ever conscious are objects of consciousness in general, are in Clifford's phrase social objects. "A fixed habit causes an object as it is found in my mind to be formed as a social object and insensibly embodies in it a reference to the minds of other men." This belief in ejects is moreover the root of all language and all morals:—of language, because any sound which, becoming a sign to my neighbor, becomes thereby a mark to myself, must by the nature of the case be a mark of the social object and not of the individual object: of morals, because the "first great commandment, evolved in the light of day by healthy processes wherever men have lived together, is, 'Put yourself in his place.'"

So far there is nothing to distinguish Clifford's theory from ordinary Idealism, which denies that the universe is real except as a phenomenon or appearance before a Self conscious thereof. The future course of Clifford's argument turns upon two assumptions. One of these, borrowed from the current physiology of the brain, is this: that the changes in my consciousness—ejective facts he calls them—run parallel with the changes in my brain, which are objective facts. The parallelism between them is one of complexity, an analogy of structure. The complex ejective facts are the same sort of complication of simple ejects as the complex motions of the brain, are of simple molecular movements. Clifford illustrates the points from the relation of speech to writing, the sentence spoken is the same function of the elementary sounds as the same sentence written is of the corresponding letters. In like manner the complex human mind is the same function of simple feelings as the brain is of primary atoms.

The other assumption is based upon the current doctrine of evolution. Our bodies have been evolved step by step out of inorganic matter, and we have before our eyes a line of organisms connecting man with the simplest atom of matter. In this series there

is no hiatus between one form and another, no breach of morphological continuity, but one species arises by insensible gradation out of its predecessors. Now in the case of organisms of a certain complexity we cannot help inferring consciousness, and as we go back along the line we not only see the complexity of the organism and of its nervous system insensibly diminishing, but for the first part of our course we have reason to think that the complexity of consciousness insensibly diminishes also.* The conclusion is forced upon us that nature is animate from top to bottom and that the humblest atom has an elementary feeling or ejective of its own as simple in comparison with the complex intelligence of man as the atom is itself simple in comparison with his very complex brain. Unless we admit this we are in a dilemma. The ejective facts which we cannot help inferring in the case of all animals must extend further down through vegetables to inorganic phenomena, or else there must be a point at which we could say: here the object begins to have an inner or ejective fact corresponding to it as my mind corresponds to my body. But the series of objective forms presents no sudden break anywhere, not even between animals and vegetables, such as to warrant our supposing that ejective facts extend thus far down in the series and no further.

Clifford is not quite as explicit about the nature of the elementary ejects, which answer to moving molecules, as we should like him to be. Of one thing however he is quite certain; they are elementary feelings which yet are neither modifications of a consciousness nor yet imply a consciousness in which alone they can exist. Every feeling may be part of a consciousness, but it need not be so. Consciousness is only a derivative and secondary result, following on the arrangement of feeling in a particular way and it is evolved at a very late period in the history of the world. In itself a feeling is an absolute *Ding-an-sich*, whose existence is not relative to anything else. *Sentitur* is all that can be said of it.

Thus strictly speaking it is not *consciousness* which extends throughout the series of objective forms from man down to the mole-

* *Clifford's Essays*, Vol. ii, p. 83.

cule. It is only feeling. Consciousness proper only belongs to the later and higher members of the series. "If we make a jump from man say to the tunicate mollusks, we see no reason there to infer the existence of consciousness at all." Therefore the doctrine of evolution itself forbids us to regard all ejects as being of the *same* substant as mind. They are only of like substance *ὁμοιούσιον* not *ὁμοούσιον*, only quasi-mental* and not in themselves either rational, intelligent, or conscious.†

Besides the evolutionist's reason that it is absurd to attribute consciousness and personality to tunicate mollusks there is another reason drawn from human introspection for asserting elementary feelings to be absolute and unrelated existence. "A feeling, at the instance when it *exists*, exists *an und für sich*, and not as *my* feeling."‡ The self-perception of the ego, the sense that in all my various feelings it is *I* who am conscious, this "unity of apperception" does not exist in the instantaneous consciousness which it unites, but only in subsequent reflection upon it. It consists further in the power of establishing a certain connexion between the memories of any two feelings which we had at the same instant.

There is one other point of extreme importance to be noticed in Clifford's account of the elementary feelings or ejects. They are connected together in their sequence and coexistence by counterparts of the physical laws of matter. Were it not so their correspondence with motions of matter could not be kept up. That they should be thus connected with one another militates at first sight with the characteristic of absoluteness above ascribed to them by Clifford. We must suppose therefore that when Clifford says that their existence is not relative to anything else, he means no more than that they are not ultimately related to a personal consciousness. We must suppose that it is these laws of the sequence and coexistence of elementary feelings which, "when molecules are so combined together as to form the film on the under side of a jelly-fish,

* Vol. ii, p. 61.

† Vol. ii, p. 87.

‡ P. 80.

so combine the elements of mind-stuff which go along with them as to form the faint beginnings of sentience. The same laws combine feelings so as to form some kind of consciousness, when the molecules are so combined as to form the brain and nervous system of a vertebrate" (p. 85).

We are now after these preliminary explanations in a position to appreciate what is the gist and core of Clifford's speculations. It is this, that the reality external to our minds which is represented in our minds as matter is in itself mind-stuff or elementary feelings. The universe consists entirely of mind-stuff. Some of this is woven into the complex form of human minds containing imperfect representations of the mind-stuff outside them and of themselves also, as a mirror reflects its own image in another mirror, *ad infinitum*. Such an imperfect representation is called a material universe. The two chief points therefore of the doctrine as summed up by Clifford himself are :

- 1) Matter is a mental picture in which mind-stuff is the thing represented.
- 2) Reason, intelligence, and volition are properties of a complex which is made up of elements themselves not rational, not intelligent, not conscious.

We shall do Clifford an injustice if we interpret the foregoing theory as a dualistic and not as a monistic view, i. e. as a view which postulates two ultimate principles of reality rather than one. Clifford however often speaks as if feeling and matter were two coördinate aspects of reality, irreducible to one another. For example he allows himself to speak of mind-stuff as going along with the material object, of laws connecting the elements of mind-stuff which are only *counterparts* of the physical laws of matter and not those laws themselves. Again he writes (p. 78) as follows: "The distinction between eject and object, forbids us to regard the eject, another man's mind, as coming into the world of objects in any way, or as standing in the relation of cause or effect to any changes in that world." Such language reminds us of Spinoza's doctrine that body alone can determine body to move and only thought determine thought to think, but we must not therefore suppose that for Clifford

as for Spinoza the two rival kingdoms of thought and extended matter are irreconcilably severed or nominally united by the figment of a single substance of which they are attributes. What Clifford means is that the thing *is* a feeling so far as it is anything at all and that, if things coexist or succeed each other according to laws, they only coexist and follow *as* feelings and conformably to laws of feeling. Not only is the elementary feeling a thing itself, but things-in-themselves are elementary feelings.

It is incumbent therefore on us to ask if an elementary feeling is equal to the double burden put upon it by this theory of being the real universe of things and of creating the human intelligence. In answering this question we must be careful to divest feelings beforehand of any characteristics which they only possess as gathered up into the unity of a self, for at the stage in which we are considering reality selves have not yet arisen. It is hard to conceive what is left of feeling after these characteristics have been removed, nor does introspection help us here, for, as Clifford very truly says, the fundamental deliverance of consciousness affirms its own complexity and it seems impossible, as I am at present constituted, to have only one absolutely simple feeling at a time. Elementary feelings however could hardly constitute the cosmos without they follow one another, coexist, and connect themselves together in their groupings according to certain laws, i. e. by some inherent necessity always take up the same attitudes toward each other, and this much Clifford assumes that they do. Yet these assumptions will not bear examination. Let us examine first the postulate that feelings follow in a fixed order; call them *a b c d*, *b* succeeds *a* and precedes *c* and it makes a difference, which comes after or before the other. Now being absolute feelings, not only is *a* past and non-existent before *b* begins to be, so *b* before *c*, but each is in turn the entire reality and there is no consciousness before which they pass in procession. The real would thus fall into disconnected and mutually indifferent moments *a b c d*; and as each of these in turn exhausts reality and is also unconscious of what goes before and after, there would be no real succession at all. In a real succession it makes a difference whether *b* comes before *or* after *a*, but in the case we suppose it

could make no difference. In truth there can be no relation of before and after between two terms except for a self, which takes note of the one disappearing and of the other appearing; and whenever we speak of things following one another we tacitly presuppose a self before whom the procession passes.

It is even more difficult to understand how elementary feelings can be grouped and complicated in a fixed order of coexistence. Mind has not yet emerged, so we must suppose that the grouping takes place in space. In that case one feeling must be right or left, above or below another. The futility of such speculation will come home to anyone who will try to realise how a feeling of smell can be above or below one of taste.

We have next to consider Clifford's account of the genesis out of elementary feelings of personal consciousness. The hypothesis of mind-stuff, we must remember, was framed in order to preserve the same continuity of ejective facts as we see to exist in the case of objective facts, to provide, that is, a gradual development of the human mind out of the simpler feelings of *amœbæ* and even of atoms. It must be denied however that the hypothesis is a success if we retain the usual meanings of the words continuity and development. Properly speaking a thing can only be said to grow or develop when it remains the same with itself all through the process and unfolds therein capacities which were anyhow latent in it to start with. Thus a tadpole develops into a frog, a grub into a butterfly, and the child grows into the man. But in the series of ejects which begins from atoms and after running through *amœba* and ape finally culminates in the human intelligence there is no point of identity, no community between the first and last terms. The eject which is the molecule is denied by Clifford to be either conscious or rational, nor has it even will, like the philosophical factotum of Schopenhauer or Von Hartmann. It is a purely negative conception, the abstract opposite of that mind into which it is to ultimately develop. The hiatus between our intelligence and a thing in itself, which call it feeling, or mind-stuff, or what we will, is merely all that our intelligence is not, is none the less of a hiatus, because it is, with the help of apes and *amœbæ*, spread out thin, so to speak.

It would be better frankly to avow the chasm that exists than to gloss over it with words like evolution and development.

"When a material organism," writes Clifford, "has reached a certain complexity of nervous structure, the complex of ejective facts which goes along with its action reaches that mode of complication which is called consciousness. When a stream of feelings is so compacted together that at each instant it consists of (1) new feelings, (2) fainter repetitions of previous ones, and (3) links connecting these repetitions, the stream is called a consciousness. Consciousness is thus a relative thing, a mode of complication of certain elements, and a property of the complex so produced." If we look into this statement we see that it only amounts to this: that feelings constitute a conscious self when they become the feelings of a conscious self and not before, for except as gathered up in the unity of a self which has memory and remains the same throughout its differences feelings can be neither new nor repeated nor joined by links.

1) That a feeling is new means that I attend to it, contrast it with former ones, and decide that I have not felt it before.

2) That a feeling is a previous feeling now repeated means that I recognise it as having already occurred.

3) If feelings are joined by links of what nature are these links? Clifford does not say that they also are feelings, so presumably they are not; in that case no link is left save a connecting self. But even if the link is a feeling it cannot be less than a feeling of the togetherness of two other feelings, but such a feeling would involve memory of those feelings and memory involves self-hood. It is really, however, an abuse of words to apply the term feeling in such a case. We might with Hume ask of this feeling which links other feelings "Is it a taste, a smell, a sound, an impression of sight or touch?"

Clifford makes a reference to Haeckel's treatise upon "*Zellseelen und Seelenzellen*."* Haeckel's view is that every protoplasmic cell has a soul of its own and that when a number of these are combined under certain conditions, as in the human brain, they generate as

* *Deutsche Rundschau*, July, 1878.

their resultant the human soul. He helps out his theory by pointing to such phrases as national spirit, a nation's conscience, a people's will. Nothing, he contends, could be more real than these entities, which are yet only resultants of the wills, spirits, and consciences of the separate individuals who compose the nation.

This is an interesting speculation, which it would be a pity to dismiss abruptly merely because it is groundless. No doubt our bodies and brains may be regarded as colonies of protoplasmic units of which each has an independent life of its own, of which each is born, nourishes itself, reproduces itself, and at last breaks up and dies. The colorless cells especially in our blood are such units and have as good a claim to be called individuals as the amœba which we find swimming about by itself in any pond. These units are certainly alike and must be allowed to have inner states of their own. It may also be freely conceded that the existence of certain inward states in these cells of which my brain and nerves are composed is the condition of certain states of feeling and emotion arising in me. But all these admissions fail to advance us a step toward Haeckel's conclusion. That any number of atoms of protoplasm have souls and soul-states is not enough *per se* to produce an extra soul which is none of them, yet *like* their souls and possessed of a life of its own. Even if the molecules of my brain were each in possession of a self-consciousness as ample as my own, their mere juxtaposition could not give rise to my self-consciousness. From first to last their soul-states remain theirs, mine remain mine. The reasoning employed by Haeckel involves a fallacy of composition:—because each of a colony of cells *a*, *b*, *c*, *d*, has a soul of its own, therefore the colony as a whole has a soul of its own, which is not the soul of any one of them. Nor do the analogies Haeckel invokes help him at all, for the life of a nation does not exist at all except as the lives of the individuals composing that nation, nor do we expect to find any traits in our so-called national spirit which are not ultimately contributed by individuals; Haeckel however would have us believe that the mere composition of the primitive and simple souls of separate amœbæ results in a *human* soul with its wealth of intuitions and interests. The utmost we are entitled to say is

that given a certain collocation of cells in the brain there may by an entirely new act of the infinite be generated a human soul. It is only by playing fast and loose with words that we can deduce this new soul from an aggregate of other souls either like or unlike itself.

It is surprising that Clifford should have recognised that the reality underlying so-called matter is akin to mind and yet have identified it rather with the quasi-mental facts of an amœba or of an atom than with the intelligence of man. The argument by which he arrives at this conclusion is as follows: You as a face, a voice, a touch, as an object to my senses in short, are a mere phantasm or appearance in my consciousness, part and parcel of myself and not distinct from me in any way. But I cannot help inferring an eject, to wit feelings and a consciousness like my own, behind the sensible show of your person; and this consciousness of yours which I address as *you*, is the truth of the object or appearance, which I have. *You* are the reality which I really perceive, so far as I perceive anything more than my own feelings. Similarly when I watch an amœba, what I perceive as a somewhat formless mass of protoplasm is really in itself the struggling life within. Lastly what I handle and perceive as a crystal or metal is really the eject. If here we read force or unconscious will instead of eject or mind-stuff, Clifford's view would practically coincide with Schopenhauer's; for force is truly an eject in Clifford's sense, not an object or appearance to me.

Now the human intelligence arises late in the history of things and is altogether a secondary and derivative thing. Consequently the world is not really what it is for my consciousness. My *Weltanschauung* is false in proportion as my mind is complex and derivative. Conversely, the *Weltanschauung* of each being approximates to truth and becomes less and less illusive in proportion as the eject which it in reality is approaches the primitive simplicity of mind-stuff. I am *really* very little of what I am *consciously*. If you want a truer exponent of the truth of things you must go to the amœba or lower still. It, as compared with me, is *consciously* most of what it is *really*. The absolutely simple atom is probably the only being who is quite free from delusions. The conclusion then to which

Clifford conducts us is this : that the universe is not really such as it appears to our intelligence, still less, I presume, such as it would appear to a higher intelligence than ours. It is really such and such only as it would appear to the being whose eject is the lowest rung in the ladder of mind-stuff. Our universe spread out in space and time, with all its splendours and harmonies, is a delusion ; nay, more, the human soul with its æsthetic and moral sensibilities, its fears and aspirations, is the parent delusion which breeds the delusion of a cosmos. "We are such stuff as dreams are made of."

The loose way in which Clifford used the word feeling, as equivalent to any form of consciousness, blinded him to the fact that a qualified thing as such is not given in feeling at all and led him to suppose that the universe as we know it would continue to stand in the absence of all complex ejects whatever. Mr. Green has shown that all theories of the object which ignore the workmanship of thought manifest therein and identify the *esse* of things with their *percipi* lead straight to nihilism. To such nihilism Clifford's doctrine, like Hume's which it resembles, immediately bring us. But Hume did not take seriously the demolition of reality involved in his theory that things are only real as they are felt and that feelings are "entirely loose and separate" (Treatise I, 559) while the solid framework of reality is an illusion bred of a propensity of our minds to feign connections and relations where there are none. Hume tells us that he regarded his own speculations as "philosophical melancholy and delirium," as "clouds to be dispelled" (Treatise I, 501). He writes "I dine, I play a game of backgammon, I converse and am merry with my friends ; and when, after three or four hours' amusement, I would return to these speculations, they appear so cold, and strained, and ridiculous, that I cannot find it in my heart to enter into them any further." But Clifford, like Huxley, took Hume *au grand sérieux*, forgetting that feeling as such does not reveal an object at all. There is a passage in a letter of Clifford's written to Professor Pollock in September, 1874, à propos of Green's introduction to Hume, which evinces pretty clearly that Clifford did not discern the true drift of Hume's speculations in the way Hume did himself. "I hope," he writes, "you have seen

Sidgwick's remarks on the introduction ; he points out that to prove Hume insufficient is not to do much at the present day. . . . Green, for instance, points out that Hume has no complete theory of the object ;—to find fault with Hume for the omission is like blaming Newton for not including Maxwell's electricity in the Principia." Here Clifford hardly writes as if he saw that his own theory of the object as e. g. an unrelated feeling is open to exactly the same criticisms as Hume's, as if he understood, what Hume had an inkling of, that, in proving the ego to be a relative thing instead of the heart and centre of reality, you dissipate the universe into nothing. There are several other features in Clifford's doctrine that call for criticism. It should for example be pointed out that the entire view that ejects are the truth of objects is in the first instance a deliverance of consciousness itself. I only transcend my individual feelings, says Clifford, so far as I infer a consciousness more or less like my own to underlie them ; and this underlying eject is the sole reality. "How this inference is justified, how consciousness can testify to the existence of anything outside of itself, I do not pretend to say ; I need not untie a knot which the world has cut for me long ago." (Vol. II, p. 73.) But if consciousness is but the property of a temporary conjunction of unconscious feelings, what value shall we attach to its assurances? They are certainly not valid except for itself ; they do not hold good for the atomic feelings of which the world ultimately consists. But my belief that the real is in the last resort an atom of feeling is simply an extension of my conviction that ejects are the truth of my feelings. Prove this conviction an illusion—and Clifford does prove it to be such, when he declares consciousness to be a relative thing—and you prove the entire theory an illusion. Thus the tail of Clifford's theory is bitten off by the head.

The hypothesis that feelings can be felt, without being felt as my feelings, is a very noteworthy one. "A feeling at the instant when it *exists*, exists *an und für sich*, and not as my feeling." This is why a Greek said *δέδορκα* in the sense of I see, because the act of perception is necessarily over, when we become conscious of it. "When," continues Clifford, "I remember the feeling as *my* feeling, there comes up not merely a faint repetition of the feeling, but in-

extricably connected with it a whole set of connections with the general stream of my consciousness." This is very truly and acutely observed but it is an admission that the unrelated feeling is no element in our experience, that in our cosmos at least there is no ὅλη whatever, but that every corner of it is illumined by the presence of a relating self. *My* consciousness never directly testifies at all to the existence of an absolute feeling. To be *my* feeling a feeling must already be brought by connections of content into the web of my experience, but what do I know of feelings which are not mine. Are not "absolute feelings" an inference based on observation of low organisms like the amœba, which we are convinced have no self and yet feel? It should be also noticed that this supposition that we are not directly but only *ex post facto* conscious of our feelings ἐξείσιν εἰς ἄπειρον. Thus Clifford writes: "This memory (of a feeling which existed *an und für sich* as *my* feeling) is, *qua* memory, relative to the past feeling, which it partially recalls; but in so far as it is itself a feeling, it is absolute, *Ding an sich*." That is to say, I am not directly but only *ex post facto* conscious even of what I remember. To be conscious of the content of a memory I must *remember* that I remember it. Surely this new memory in turn cannot be known *ex post facto* and so I must *remember* that I remember that I remember *et sic ad infinitum*, before I become really *conscious* of anything at all.

One other point might be raised. What is the nature and origin of the laws which govern the sequence and coexistence of feelings. We have already seen that feelings as such neither follow nor coexist apart from a self.

"These laws are counterparts of the laws which govern physical phenomena." Clifford in writing thus conducts his speculation without prejudice to his common-sense belief in a world of necessarily and rationally related things. He does not see that with the reduction of the real to a feeling physical facts disappear and with these facts the laws to which laws of feeling shall correspond. He is evidently confusing the laws of feeling with the psychological laws of association which depend upon the environment of the individual's senses by a world already real. He does not see that the problem

he really imposes on himself is this : starting from no world at all to arrive at one, or starting from the world as it may be supposed to picture itself in the feelings of an amœba to arrive at it as it exists for the human intelligence. We must not concede to Clifford any more than to Hume this postulate of a real cosmical order which shall give the cue to feelings when and how to follow and coexist. Huxley only allows it to Hume, because not having passed the threshold of Idealistic philosophy he cannot divest himself of it. If, however, this postulate be denied, then the doctrine that the *esse* of things lies in their *percipi* will recommend itself to no one.

F. C. CONYBEARE.

ARE THERE THINGS IN THEMSELVES?

THE proposition that things in themselves cannot be known, has often, and perhaps justly, been proclaimed as the central idea of Kant's philosophy. Kant concludes the first section of his "Transcendentale Elementarlehre" with this "critical admonition":

"That in general nothing which is intuited in space is a thing in itself, and that space is not a form which belongs as a property to things; but that objects are quite unknown to us in themselves, and what we call outward objects are nothing else but mere representations of our sensibility, whose form is space, but whose real correlate, the thing in itself, is not known by means of these representations, nor ever can be." ("Kritik d. r. V." § 4.)

The term "thing in itself" means originally the object as it is, independent of the thinking subject's cognition. For instance: A rainbow appears in the clouds; the rainbow is not a thing in itself, but the appearance of a thing in itself. The rainbow exists in man's sensibility only. The colors of the spectrum, indeed all colors, the colors of the sky, of the clouds, of trees, of living beings, are sensations only; they are subjective phenomena, they are certain kinds of feelings representing objective realities, but they are not these objective realities themselves. They are perceived in the brain and are projected to a place outside the organism. The rainbow, as it is seen, is not a thing, but it is something seen, it is an appearance only. And this is true of all things seen and heard and perceived by any one of the senses. The sense-pictures are localised in space, they are projected outside to a spot where the combined experience of the senses has taught a sentient being to expect them.

But all the objects of the objective world as they are perceived are and remain subjective sense-perceptions. The world of our senses around us is woven of our sensations. It is mere appearance. This is not a question concerning which there is any doubt, this is simply a matter of fact. But the question arises, "Can we know things as they are independent of sensation? Can we know things in themselves?"

The physicist and every scientist is engaged with the problem, What are natural phenomena independent of sensation? Light is a sensation of vision, but what is the objective process that takes place when a human eye perceives light? The physicist answers this problem by eliminating in his mind the sense-element and by describing the facts of the process in terms of matter and motion. His answer is that light, objectively considered, is a certain vibration of the ether. If we can rely upon physical science, the thing in itself of a rainbow would be a certain refraction of ether-waves. These vibrations of the ether-waves are transmitted from the sun, and being broken in the falling raindrops actually take place independent of cognition, they are real whether we look at them or not.

The ultimate aim of science is a description of the natural phenomena not in terms of sense-elements, but in terms of form. That feature of a thing which we call its matter, constitutes its reality, but the form of a thing, of a motion, or of a process makes the thing that which it is; every act of causation is a change of form, and the forms of things are determined with the assistance of the operations of purely formal thought, i. e. through measuring or counting. Such is science, not only as it ought to be, but also as it actually is. All our scientists, each one in his field, are consciously or unconsciously working out a solution of this problem. And a solution of this problem means, in our conception, the objective cognition of the world—i. e., a description of the natural processes as they are independent of sensibility.

Kant knew very well that a description of things and of natural processes in terms of form was possible. He clung, nevertheless, to the proposition that things in themselves are unknowable. And why? A description of things and of natural processes in terms of

form was in his opinion not as yet a description of things in themselves, for—and here we are confronted with the original idea and the fundamental error of Kantian thought—Kant did not consider the forms of things as an objective quality of theirs, he maintained that the formal element is purely mental and merely subjective. The thinking mind, he declared, attributes them to the object. Space and time, the pure forms of existence, together with all other forms, such as causation, are, according to Kant, not qualities of the objective world, but of the thinking subject. The thinking subject cannot help viewing the world in the form of its own cognition, it transfers these forms to the objects. Therefore the thing in itself according to Kant would not be represented in a description of the thing purely in terms of form, the thing in itself would mean the thing as it would be, independent of time and space.

Let us here point out a distinction between the thing in itself and noumenon. Noumenon means "a thing of thought." The noumenal world is the world of thoughts in a thinking being's mind. The noumenon must not be identified with the thing in itself. The two terms are often confounded, but they have to be distinguished. The idea of reflected ether-vibrations is a "noumenon," but the reflected ether-vibrations themselves, the objective process are a thing, i. e. an objective reality, and in so far as they are a reality, considered as being independent of sensation, we may call them "a thing in itself." Now when Kant denies the objectivity of time and space, he must, implicitly, also deny the objective validity of a description made in terms of measuring and counting. The pictorial world of our sense-perception is subjective, it is built up of sensations, it is not objective; and the world of thought is the attempt to reduce the subjective world of sense-imagery to terms of objective validity, i. e. to terms of form. But this world of thought is according to Kant purely mental, it is purely noumenal, or, in other words, noumena do not represent things independent of cognition, they represent things as our mind thinks them. The sensory world is mere appearance, it is a subjective phenomenon, but the world of thought, says Kant, is no less subjective, it is a world of thought which describes things in terms of purely mental properties and not in prop-

erties of the things themselves. This is tantamount to the proposition, that things in themselves cannot be known.

The term "thing in itself," in the sense of a thing as it is independent of sensibility, would better be called "the objective thing," and we shall so call it when we wish to distinguish it from Kant's thing in itself. The objective thing is the thing, not expressed in terms of subjective elements, such as feelings or sensibility, but in terms of objective elements, i. e. in terms of form. That a description of things in terms of forms is possible has never been denied either by Kant or by any Kantian; but they deny that these descriptions are anything more than mere noumena; Kant and the orthodox Kantians deny that they represent the things as they are in themselves. Thus the term thing in itself in the Kantian sense comes to mean the thing as it is independent of space and time.

That every noumenon is a mental sign is a matter of course; the noumenal world is ideal. But we maintain that these mental signs represent real qualities of the objective world; they have a meaning; the things represented by them are actual features of reality. Kant denies this. To him the noumenal world is purely noumenal. To Kant there is no space outside the space-conception, and so he declares that space is ideal; it is not an objective quality of things. However, we maintain, that our space-conception describes, i. e. depicts, or represents space, our space-conception is ideal, yet space is not ideal but real; it is an objective quality of the world.

Kant's view is dualistic, or at least necessarily leads to dualism, and it appears to rest on an unpronounced dualistic assumption. Kant treats "the subject" as something quite distinct and separate from "the object." If he had borne in mind that the subject is always at the same time an object, he would have treated both subject as well as object as mere abstractions of one and the same reality. Resting upon this erroneous presupposition, Kant's most consequential mistake, in our opinion, was his conception of what he called "the ideality of time and space." If time and space were purely ideal, purely mental, purely subjective, then indeed, the things as they are would forever remain unknown to us, then indeed the thinking mind would be as if shut up within a hollow globe out of

which it could never escape, then indeed the world would be divided into two parts, the objective world, and the subjective world; and the gap between both could never be bridged over. The thinking mind would have within itself a noumenal world built upon the subjective elements of sense-impressions. This subjective world would possess no objective value, it would not describe realities, and the objective world would thus be unknowable, inscrutable, and mystical.

The idea of a thing in itself found another support in a mistaken conception of the unity of certain things, especially of organisms. The unity of a combination of parts is not merely the sum of the parts, it consists in their peculiar combination which makes an harmonious co-operation possible. This unity is an additional element; it is an entirely new creation which exhibits features not contained in any of its parts. There is no latent watch contained in a heap of little wheels and cogs, the watch is created through the combination of these wheels and cogs. The unity of a thing is its form, consisting in a special arrangement of its parts; and this form although not material is nevertheless real.

The materialistic conception overlooks the importance of form; but the spiritualist and also the transcendentalist materialise it as some spiritual substance, as entities or independent existences. They are in this way as much materialistic as the materialist.

The question has seriously been asked, What is a melody in itself. The question has sense when we understand by it, What are those new qualities which appear through a certain combination of sounds? Those qualities are not nothing, they are something quite peculiar. We call one of them rhythm, another one is the fixed succession of notes of a different pitch. The qualities of a melody as a whole are not qualities of its separate parts; yet therefore the melody is not a thing in itself. We might just as well speak of a watch in itself, meaning thereby that peculiar unity of the combination of its parts which makes of them a watch. But if we thus speak of "the watch in itself," we must be aware that this idea has not somewhere in a transcendental fairy-land an independent existence above space and time, and outside of its parts. The unity of a certain interacting group of parts is, on the one hand, no mere addition of the thinking

subject, it is not purely noumenal, it is real and objective ; on the other hand it is not a thing in itself, independent of its parts, it is the product of the relations in which its parts affect one another.

Is not perhaps the basis of these vagaries a mistaken conception of language? We call a certain sensory picture a tree and we say, the tree has roots, a stem, branches, leaves, and fruits. Autumn sets in and the wind shakes the leaves off the branches. Now we speak of a leafless tree. We cut the tree down and we speak of a rootless tree. We burn the trunk and the branches, and the tree as a phenomenon is gone, all its properties are taken away. What remains? The tree in itself is left, but the tree in itself does not exist. If all the property of a person is taken from him, the person himself is still left. The properties of a tree, however, are not properties in the same sense ; they are qualities. If all the qualities and parts of a tree are gone, if only the tree in itself is left—then there is left nothing but the empty word tree, the idea of a tree.

II. KANT'S VIEW OF SPACE AND TIME.

Let us briefly consider the ground upon which Kant bases his view of the ideality of space and time. Kant asks :

"What then are time and space? Are they real existences? Or are they merely relations or determinations of things, such however as would equally belong to these things in themselves, though they should never become objects of intuition; or are they such as belong only to the form of intuition, and consequently to the subjective constitution of the mind, without which these predicates of time and space could not be attached to any object?"* (Kr. d. r. V. § 2; "Meiklejohn," p. 23.)

We should say, to state our opinion briefly, that space and time are not "real existences," i. e. they are not concrete objects, but they are real nevertheless ; they are not material things, not thingish realities, yet they are objective properties of things. They are the forms of things and processes, and belong to the things whether they become objects of cognition or not. In this sense, they actually belong to the things in themselves, viz. to the objective things.

Kant argues that space and time are not conceptions derived

* Italics are ours. Kant affirms the italicised question.

from outward experience; they have not been abstracted from sense-impressions. They are necessary representations *a priori*, they are not discursive ideas or generalisations, for there is but one space and one time, space being represented as infinite and time as eternal.

From these arguments Kant draws the conclusions that space and time do not represent qualities of an object but that they are the form of all sensory phenomena, space being the form of the external, time of the internal sense. In other words, space and time belong to the subjective condition of the sensibility and not to the objective world.

We answer that our conceptions of space and time are after all derived from experience. Space and time are abstractions. There is no time in itself. There is no space in itself. Space and time are not directly derived from outward experience, nor are they derived from the sense-elements of experience. Inner experience, i. e. reflection to the exclusion of sense-impression, the experimenting with pure forms, will lead to the construction of the concepts of space as well as of time. Space and time, magnitudes and numbers having been constructed in the mind of a thinking subject are applied to practical experience. When counting three trees we do not abstract the number "three" from the three trees, but we apply to them the system of numbers in our possession.

Says Kant:

"We never can imagine or make a representation to ourselves of the non-existence of space, though we may easily enough think that no objects are found in it. It must therefore be considered as the condition of the possibility of phenomena and by no means as a determination dependent upon them and is a representation *a priori*, which necessarily supplies the basis for external phenomena."

Space being the generalised concept of extended form, and time that of motion without reference to any contents, it is naturally impossible to think the non-existence of space and time. Thinking is an act, it is a process; and any act, any process, any event, is a reality which implies or presupposes the existence of the forms of reality. We can think of matter without reference to form, i. e. we can have the abstract idea of matter; but we cannot think that there is any matter void of form. This does by no means prove that form

has nothing to do with matter. On the contrary, it proves that form and matter are inseparable. The form of existence need not therefore be called "the basis" of existence, it is simply one universal feature of existence. And the form of existence being bound up with existence itself, it is necessary that any thinking existence in so far as it is real, in so far as it is at the same time an object and part of the objective world should also be in possession of the conditions to evolve the idea of form out of itself through inner experience.

This inner experience of experimenting with pure forms is also a kind of experience. It is not a purely subjective process; it is a subjective process to the thinking subject, which to other subjects, however, would appear as an objective process. The laws of pure form as stated in the sciences of purely formal thought, are not merely subjective; they possess objective validity. It is true and from our standpoint a matter of course that the laws of form are *a priori*, which means, they hold good for any pure form.

Modern positivism, such as we defend it, is monistic. We consider the entire world as one great whole and do not forget that all noumenal representations of certain features of the world, of matter, mind, form, even of things and our own souls included, are mere abstractions. Reality itself remains undivided and indivisible. Abstract concepts are mental symbols invented to represent certain features of reality. But although we can in our mind separate these features and distinguish them from other features, in the world of reality they cannot be cut out or thought of as things in themselves. Granting the oneness of reality which dawns upon us instinctively before consciousness is fully matured, we are inevitably led to the conception that there is but one form of reality, which implies that there is but one space and one time.

III. FORM NOT IMPORTED BY THE MIND INTO REALITY.

Kant says, and in this we agree with Kant, that "all thought must directly by means of certain signs relate ultimately to *Anschauungen*." The word *Anschauung* (the "onlooking," generally translated by "intuition") means the immediate presence of sense-perception. Says Kant: "The effect of an object upon our faculty

of representation is called sensation, and that intuition which refers to an object by means of sensation is called empirical intuition." For instance, I see a rose: The image of the rose which I see is the appearance or the phenomenon. Kant continues:

"That which in the phenomenon corresponds to the sensation I term its *matter*, but that which effects that the contents of the phenomenon can be arranged under certain relations, I call its *form*."

In other words matter is that which affects the senses and form is to be expressed in relations. The difference between the formal and the material is obvious. The formal is of great importance, nay, it is of paramount importance, but the formal is neither anything apart from the material nor is it a substance. Both concepts are disparate, but they have been derived by mental abstraction from the same reality.

We fully agree with Kant when he continues:

"That in which our sensations are merely arranged, and by which they are susceptible of assuming a certain form, cannot be itself sensation."

But we do not agree with Kant when from this proposition he derives the following conclusion:

"It is, then, the *matter* of all phenomena that is given to us *a posteriori*; the *form* must lie ready *a priori* for them in the mind, and consequently can be regarded separately from all sensation."

Here lies the great fallacy of Kant, which rests upon an erroneous statement and an actual distortion of fact. The phenomenon of a rose which I see before me is not merely sensory, but also formal. The phenomenon, i. e. the image of the rose (*die Anschauung*) is a sensation of a special form. The term sensation as it is generally used implies its having a special form. Accordingly the form does not, at least not from the beginning, lie ready *a priori* in the mind; the form is given together with the sensation.

Kant speaks of "that which is annexed to perception by the conceptions of understanding," as if our understanding added the formal out of the mind to the sensory elements given by experience. What is the mind? The mind is a product of the world; it is a system of symbols representing the things of the world and their re-

lations including such possible relations as are worthy of aspiring for. In short, the mind consists of ideas and ideals.*

It has often been said that the mind is the creator of the sensory and noumenal world. This is incorrectly expressed, for mind *is* the sensory and noumenal world itself. The sense-pictures, the thought-symbols, and the ideals of a man are actual parts of his mind. They are not products but constituents of his mind. Their organised totality is his mind itself. The activity which takes place in a mind, i. e. the combining, the separating, and recombining of memories, thoughts, and ideals are the actual realities, and if we speak of a man's understanding, or reason, or any other so-called faculty, we have to deal with abstractions. The activity of mentally separating form and matter might be called by the general term understanding. However the faculty of understanding is not a distinct mental organ, it consists in the single acts of understanding, and the word understanding is a mental symbol representing them all together as if they were one thing.

And certainly these acts of understanding as little import the formal into the world of sensation as the miner carries the metals into the mines. The formal, the relational, or the *a priori*, is first extracted out of the data of experience not otherwise than iron is gained out of the ores. The ore is not iron but it contains iron, the phenomenon of a rose is not purely a sense-impression, it is a sense-impression of a certain form. We are aware of the fact that mind is an entirely new creation different from the non-mental world, yet at the same time we maintain that the elements from which mind develops are the same as the elements of the non-mental world. Nature furnishes the entire raw material and whatever new creation the product of a new development is, nothing can be added to the raw material, of which the formal is the most indispensable part.

The raw material of sensory phenomena as soon as it is worked out, and also the activity of working it out are called mind. Mind accordingly originates with the appearance of sentient substance as

* The problem of "The Origin of the Mind" having been the subject of a former paper need not be discussed here. See *The Monist*, Vol. i, No. 1, p. 69-86, and *The Soul of Man*, pp. 23-46.

the organisation of feelings and the memories of feelings—these memories being conditioned through the preservation of the form of sentient substance. Mind is not something different from the world but must be considered as its product and highest efflorescence. Mind is made of the same substance as the universe and the mind-forms are the forms of objective existence.

As soon as a system of forms has developed in a sentient being, thus constituting its mind, this system can again be referred to the objective forms of things. In this sense we can say with Kant, that the understanding imports form into phenomena; and this re-importation, this referring the objectively formal to the subjective system of formal thought, is an essential element in cognition.

IV. PROFESSOR JODL'S VIEW OF THE THING IN ITSELF.

The idea of a thing in itself independent of space and time and the unknowableness of the thing in itself are the basis of all agnosticism. And an agnostic tendency is at present predominant even among positive workers and thinkers. Agnosticism is still the philosophy of the day even among those who have surrendered its basis (which is Kant's transcendental idealism) and accept the monistic world-conception. Friedrich Jodl, professor at the University of Prague and author of the well-known "History of Ethics," in answer to a letter of mine formulates in concise terms this modernised view of a thing in itself. He writes:

"You are right. The thing in itself is a dangerous idea,—one that easily leads astray. But so long as we have no better expression to represent the relation for which it stands we shall have to use it. You also accept the following three momenta: (1) Objective existence or reality. (2) Effectiveness of Reality upon consciousness, i. e. sensation. (3) Effectiveness of sensation upon consciousness and reproduction of sensation in consciousness, i. e. representation. Nobody, however, can maintain that in sensation, and still less in representation, the whole of reality will appear in consciousness. First we learn from history what progress has been made in the cognition of reality and secondly it is obvious that we are infinitely far from an actual comprehension of reality. We have strong reasons to suspect that there are many processes in reality which in no way affect our sensibility and cannot enter into consciousness, and we know for sure that we do not comprehend—i. e. reconstruct from them assumed causes—many things, indeed most things, which we observe

in their effects. Our cognition of nature, if we begin to construct, always leads us to some x . It may be doubted whether this x is an unknown or an unknowable. In my opinion it is both—anyhow we cannot eliminate it.

"I am convinced that many things which are unknown to-day and appear as unknowable will be known and knowable in a thousand years. But I doubt whether the total mass of the Unknowable has been noticeably diminished. For the Unknowable is infinite and the infinite if divided by any finite number can never produce a finite number. Every solved problem contains new and greater problems. What shall we call this? I believe that the term "thing in itself" is after all the best expression. Whoever wants to turn a mystic on account of it cannot be prevented. This state of things can be brought out of existence by an act of violence only."

It is most certainly true, as Professor Jodl says, that sensations do not depict the whole of reality. But why should they? Cognition is possible only by limiting the attention to a special point. Every sense-organ is an organ of abstraction. Every sense depicts the effects of reality in its own way and in this way alone. It may freely be granted that there are many processes in reality which do not affect our sensibility. Yet there is nothing in reality which does not affect something in some way. If it did not, it could not be said to exist. The chemical rays of light do not affect our eye, they are invisible and were for that reason not noticed. But these rays are not without any effects. If we cannot observe them directly, we can invent sensitive plates or other instruments for observing their effects indirectly. Indirect observation makes it possible that the limitation of our senses does not result in a limitation of knowledge.

Says Professor Jodl:

"Our cognition of nature if we begin to construct always leads us to some x ."

This sentence indicates that Professor Jodl's and our conception of cognition are different. Cognition is not a reconstruction of assumed causes; it is a unification of our representative sensations or ideas. Something is again noticed, it is re-cognised, to be the same thing. Cognition is adaptation of new facts to our present stock of knowledge; it is the proper arrangement of new data in our system of mental representations. Cognition, accordingly, is the reduction of the unknown to terms of the known. How can it ever lead to an x ? The positive conception of cognition is, as Kirchoff defines, it "an exhaustive and most simple description of facts." It is a re-

construction of facts or, as Mach says, *Ein Nachbilden der Thatfachen*. Cognition is based upon *Anschauungen*; it will lead to an ultimate *x*, only in case we expect that cognition instead of being a description of facts will have to give us information about how it happens that facts exist, how they originated out of nothing.

Professor Jodl's thing in itself is not outside of Space and Time (as is Kant's thing in itself) but it is the overwhelming infinitude of problems to be solved with which we cannot hope to get through even though our life lasted billions of light-years. Let me repeat here what I said in the second edition of "Fundamental Problems,"

"A philosophy which starts from the positive data of experience, and arranges them in the system of a monistic conception of the world, will meet with many great problems and in solving them will again and again be confronted with new problems. It will always grapple with something that is not yet known. The unknown seems to expand before us like an infinite ocean upon which the ship of knowledge advances. But the unknown constantly changes into the known. We shall find no real unknowable wherever we proceed. The idea of the unknowable is like the horizon—an optic illusion. The more we advance, the farther it recedes. The unknowable is no reality; the unknowable can nowhere prevent knowledge nor can the horizon debar a ship in her voyage, from further progress." (p. 271.)

Man's knowledge has value as positive information concerning the facts he has to deal with, and the infinitude of the not known, the infinitude of other problems and things which he will never face, is of no consequence whatever. Positivism commences and has to commence with the positive facts of the given experience and not with the infinitude of possibilities which lie beyond our horizon. Compare knowledge to property and suppose a man is to buy a farm. Shall we discourage him with the idea that the whole amount of soil on the surface of the earth and of other planets is infinite, and this infinitude of all existences if divided by his finite little possession can never result in a finite number. Even if it were doubled, if it were multiplied a thousand times, it remains as good as nothing in comparison with the rest of the world which he cannot acquire. However, his possession is something to him, whatever the relation of infinite possibilities may be in proportion to it.

The concept of infinitude serves a good purpose in its place, but we cannot use it for analogies in other fields or bring it in rela-

tion to concrete realities. We produce confusion and drop into mysticism as soon as we handle the idea of infinitude as if it were a positive thing. The infinite is a function which is mathematically expressed by $\frac{1}{0} = \infty$, and whenever we bring anything in relation to the infinite, we at once dwarf the greatest number no less than the smallest number into zero.

Clearness of thought is the indispensable method of sound philosophy for constructing a positive world-conception, which in great outlines is a description of the facts of reality. By suffering mysticism as a legitimate conception either in science or in philosophy, we enhance the interests of those who prefer the chiaroscuro of vague notions to clear thought.

V: CLIFFORD'S AND SCHOPENHAUER'S CONCEPTIONS OF THE THING IN ITSELF.

When Clifford speaks of things in themselves he does not mean Kant's thing in itself, he means neither the object independent of the thinking subject nor the thing independent of space and time. He means the thing as it would be if viewed from the thing itself.

A man appears to other thinking beings as an active body, as an organism that is in motion; but to himself he appears as a feeling being. The subjectivity of things as they appear to the things themselves consists in our own case of states of awareness, and this subjectivity is called by Clifford the thing in itself.

A certain brain motion is in its subjective aspect a feeling. This feeling is according to Clifford the thing in itself of the visible, observable, and measurable motion. The thing in itself of so-called inanimate beings is not feeling, but elements of feeling. In other words, the world-substance is everywhere in itself potentiality of feeling and Clifford therefore calls it "mind-stuff."

Schopenhauer arrives at his conception of the thing in itself practically in the same way. There is the world as it appears to us, the objective world of motion in space and time. What the kernel of this world may be, we can know from self-observation. The kernel of ourselves, Schopenhauer says, is Will; and the will is also the kernel of things; the will is the thing in itself.

We understand by will the passage into action, i. e. an incipient motion of the organism if accompanied with the psychological element of consciousness, and this consciousness is a state of awareness of the will including its direction and aim. Will, as the term is generally used, is always conscious. Schopenhauer however speaks of the will as being blind, i. e. without knowledge, without awareness of itself and its aim. This indicates that he uses the word not in its original but in a figurative meaning.

The fall of a stone may be characterised as a blind motion without awareness and without the stone's having a consciousness as to its direction or aim; and in a similar (although not in the same) way Clifford speaks of the elements of feeling as being not rational. We agree with Schopenhauer that that factor in a stone which makes it fall when placed in a certain position is as much a natural process as the act of a man, only of a lower grade and a simpler kind. Schopenhauer calls that which both have in common "will." Yet in common language we call the objective aspect of that which both processes have in common, "motion." What then is the subjective aspect of a falling stone? It is not a state of awareness, it is no feeling, but it is the potentiality of a state of awareness, it is potential feeling. There *is* a subjective aspect, but this subjective aspect is so far as we can judge of no account to the stone.

That something in the stone which corresponds to man's consciousness, viz. the stone's subjectivity, is not mind, but it is potential mind. And potential mind is not as Mr. Conybeare expresses it "mind diluted," potential mind is no mind at all.

The world-substance as it exists in inorganic matter is not mind. But the universe taken as a whole, the All, is for that reason not less than mind. On the contrary, it is infinitely more than mind. The All is not brute force and inert matter only, the universe is a cosmos, and its subjectivity necessarily develops, according to the laws of form which characterise the cosmos throughout, into mind. We disagree with Professor Clifford most emphatically when he describes the mind-stuff of which according to his terminology the world consists, as not rational.

The world it is true is not rational in its elements, but the world

as a whole, the entire cosmos with its laws and especially in its formal order, is the prototype of all rationality. Human reason is rational only in so far as it conforms with, as it reflects, as it describes the order of the cosmos. The human mind is a microcosm. We do not call the macrocosm, in whose image the microcosm has been created, a mind, because we understand by the term mind not reality itself but reality pictured in symbols of feeling. We understand by mind the individual conception of the world as it is mapped out in the brain of a sentient being, and not the universe itself, not the all-being. We understand by mind a creature and not the creator, a soul and not God.

The cosmos, the All, God, that which creates the mind, is not dead, not irrational, and not inferior to mentality. It is the source of all life, it is the condition of all order, it is the standard of all morality. All the minds that exist are but parts of it. In it, with it, and through it we live and shall live forever. For although we shall die, our being can never be blotted out. Existence knows no annihilation and life knows no death. What we call death is a dissolution of life in a special part, but the contents of a life, the thoughts, the ideas, and the ideals are preserved and transmitted, they are implanted into other minds; the soul continues to live. And this continuance of the life of the soul is not a mere dissolution in the All, it is not the immortality of force and matter; it is the preservation of its special existence, of its most characteristic and individual features for an immeasurably long period hence, which will last as long as the conditions of life remain favorable upon earth. Yet even if a whole solar system were broken to pieces, life will reappear; mind will be born again to struggle for truth and to aspire to live in conformity with truth.

VI. THINGS AND RELATIONS.

The proposition that things in themselves are unknowable finds a strong argument in the statement that we can know relations only, that all knowledge is relative. It is undoubtedly true that all knowledge is relative and knowledge is a knowledge of relations. But

what is a relation? When I once proposed this question, I was answered:

"A relation is the connection between two things; it is that something in which the one stands to the other, in short, it is the betwixtness of things."

This is exactly what a relation is not. From such a definition of relation agnosticism will necessarily follow. It is a misstatement of the case, and when we come to follow out the idea, we shall be led into inextricable contradictions, and unless we revise the whole argument, we shall have to confess that we are at our wit's end.

The question, What is a relation? was one of the issues between the two great mediæval schools of philosophy, the Nominalists and the Realists.* The Nominalists answered: "A relation is a mere product of the mind," while the Realists declared that "a relation without which the thing cannot be, is in the thing."

Both schools relied upon Aristotle's authority. Aristotle had declared that matter is mere possibility of existence (it is *δυνάμει ὄν*) and form is that which makes it real, the formal is the real, form is existence or being (*οὐσία*). The metal of a statue, Aristotle says, is its matter, the idea of the statue is its form, both together make the real statue. The metal having had another form before, did not exist with the inherent purpose of being this metal of the statue. The metal is the mere potentiality of becoming a statue.† Hence, says Aristotle, not the matter but the form constitutes the reality of the statue, the form is that which is real, or that which makes actual, *ἐνεργεία ὄν*, it is the being in completeness or actuality, *ἐνετλεχεία ὄν*, i. e. that which makes a thing exist in its purpose (*ἐν τέλει ἔχειν*). If the formal alone is and makes real, relations must be real. This is in favor of the Realists.

* It is scarcely necessary to mention that mediæval Realism is different from modern Realism.

† Aristotle's idea of matter being potential existence is a fiction. Fictions of that kind are useful for certain purposes, but we must not forget that they are fictions. We might just as well introduce any other system of fictions. For instance we might with certainly not less propriety look upon the idea in the mind of an artist as potential reality while its appearance in a material shape is conceived to produce actual reality.

Yet Aristotle's philosophy is not in every respect clearly worked out. In fact there are two Aristotles, the one being a Platonist, the other a naturalist, the one believing in universals, the other investigating concrete things and taking individuals as real beings. But both Aristotles and with them both parties of the schoolmen had no clear conception of the nature of ideas, what they are, and what they purport, and how we can discriminate between their subjective and objective elements. Ideas have a meaning. Is their meaning purely mental or has it an objective value? We say that it has.

The same Aristotle who considered the formal as that which makes real, denied the objective existence of relations. He said that such qualities as greater, or smaller, double or half, indeed all relations (the *πρός τι* of things) did not belong to the things, but were added to them by the thinking subject. Ergo relations are mere products of the mind, they have no objective value. This was in favor of the Nominalists.

Now it is true that some relations are purely mental in so far as the comparison upon which they rest is purely imaginary. An answer to the question, Who was the greater, Alexander or Cæsar? depends upon the standard of measurement which we create for the special purpose. Some such relations have no objective value, they are not facts but a play of imagination dependent on the recognition of the standard of measurement. But how is it, if we express the relation between the gravity of a stone and the whole mass of the earth as it manifests itself in the stone's fall? Is that also a mere product of the mind? Certainly Newton's laws describing gravitation in exact and mathematical formulas are a product of the mind, but this product of the mind has an objective value, it has a meaning, it describes facts, and these facts are certain relations between certain things.

* * *

The fault of the modern misconception of relativity lies in the assumption that the two or more things are considered as things in themselves. We are apt to consider the gravity of two masses, of a stone and of the earth, as a relation between two independent

things. Here is the stone and there is the earth and the relation is considered as some third item, being the connection in which the one stands to the other.

In reality there are not two things and, in addition to them a betweenness of the two things. (The world is not a sum of things, not even a system of things, but a whole indivisible entirety and what we call things are abstractions which serve special purposes in the household of cognition.) All things consist as it were of innumerable relations to all other things. When we abstract one special process which takes place in the province of what we are wont to call *two* things, we have to deal with a relation.

There are no relations of themselves and there are no things of themselves. Relations describe certain features of reality obtaining between what we call two or more things, and in this description all other features of which the real things consist are purposely omitted.

There is no quality of things but it is at the same time a quality of relation. Every quality of a thing characterises it under a certain condition; it appears as an effect upon something and thus it is actual as a relation. Cognition analyses things into bundles of relations and all these relations together make up the things.

The modern idea that we can know relations only and that there are things in themselves which are unknowable is an old error inherited from mediæval scholasticism, and its roots can be traced back to the philosophy of Aristotle. The difficulty disappears as soon as we consider the whole world (ourselves included) as an interacting whole, and that the conceptions "things" and "relations" have been invented for describing certain of its parts and certain of its interactions or interconnections.

If we push the idea of things in themselves to the ultimate extreme we arrive at the atomistic conception of the universe. *Atoms are the things in themselves reduced to the point system.* If we consider the world as a heap of innumerable atoms, we are at a loss how to explain the interaction among these atoms. The atomist universalises the substance-abstraction and will be disappointed afterwards not to be able to deduce from his universalisation other qualities which are found in reality, such as the relations of things, their

interconnections, their spontaneity of motion, the life of organised beings, and the mind of thinking creatures.

Ideas are symbols and symbols have a meaning. The whole realm of mental representations may be viewed in their symbolism or in their significance. Considering their symbolism, ideas of things as well as of relations, are products of the mind, considering their meaning, ideas represent realities; in other words: their contents or that which they signify is real.

It appears that neither Nominalism nor Realism is right; yet if we stretch them only a little, if we are allowed to interpret them in the light of a monistic world-conception, both are right. They cease to be contradictory and become complementary. Universals are real, say the Realists, i. e. the forms and relations of things are actualities. Universals are names, say the Nominalists, i. e. the relations and forms in which we describe the world are mental symbols.

The Realists had the misfortune to defeat the Nominalists entirely, and thus had a chance to insist upon being right in every respect. All opposition having ceased, the errors of Realism grew in extraordinary exuberance. Nominalism in the mean time raised its head in opposition to the recognised authority of the church as well as the schools, slowly yet powerfully and irresistibly. The errors and the tyranny of Realism gave strength to the Nominalistic movement which reached its height in Kant's philosophy. The Realists had gone to the extreme of declaring that universals were things, real substances, independent of single and concrete objects, and the Nominalists on the other hand, represented by Kant, went so far as to declare that all relations, time and space included were *mere* products of the mind.

If the relations are mere products of the mind, all knowledge being a knowledge of relations, knowledge becomes impossible. That last consequence was drawn by Kant and is emphatically insisted upon by agnosticism.

There is but one world-conception that can dispense with these conclusions: it is that view which conceives of the All as a whole; and of knowledge as a description of its parts, qualities, and relations, ever mindful on the one hand that the parts are parts, that

qualities and relations are certain features only, not entire realities, or isolated entities, and that the symbols thereof frequently overlap each other; on the other hand that there is nothing absolute,* and that there are no things in themselves.

The relativity of knowledge, whether we conceive of it as the relativity of the object to the subject in general or as an appreciation of the fact that all knowledge gives and can give information of relations only, does not lead to the conclusion that knowledge is impossible. Relativity is a fundamental feature of knowledge, and we shall understand that it must be so if we consider that reality itself is a great system of relations.

* * *

The interconnection of all things with all things appears to be so complete, that if we intended to explain or understand one single fact fully and exhaustively in all its relations, past, present, and future, we should be obliged to give a complete description of the universe. Says Tennyson:

" Flower in the crannied wall,
I pluck you out of the crannies ;—
Hold you here, root and all, in my hand,
Little flower—but if I could understand
What you are, root and all, and all in all,
I should know what God and man is."

We might address in the same way anything else, an atom of hydrogen, a grain of sand as well as the sun, the action of a tiny speck of irritable protoplasm as well as the soul of man.

VII. IS THE EGO A THING IN ITSELF?

Prof. Lloyd Morgan in his excellent work "Animal Life and Intelligence" uses repeatedly the word "mind" as if it were a thing in itself. Professor Morgan is a monist and he does not intend the word to mean a thing in itself; yet such is the influence of language

* The term "absolute" is for that reason neither meaningless nor redundant. It denotes a certain method of viewing things, but is not an objective quality of things.

that we, all of us, unless we are constantly on our guard, will inadvertently slip into dualistic expressions. Professor Morgan says, with reference to certain sensations of animals (p. 309) :

'From these stippled sensations the mind in all cases elaborates a continuum.'

The unity which arises out of stippled sensations and which through their interaction becomes a continuum is called mind. To speak of mind as working out the continuum is mythological language, it is the transformation of the abstract idea "mind" into a real and independent thing whose existence is conceived to be independent of the reality from which it has been abstracted.

Again, Professor Morgan says : "Our constructs are literally our handiwork." Our constructs, i. e. our mental signs constructed to represent realities, constitute our soul ; they are we ourselves.

Professor Morgan, as I understand him, does not believe in a mind behind the psychical facts of mental activity, he does not assume the pre-existence of mind to the continuum elaborated. His view of mind appears to be the same as ours. The more noteworthy, then, is his usage of the term "mind." It is a remarkable instance of how language naturally inveigles us into a belief in things in themselves. Words seem to denote concrete existences and as soon as we use words in this way we are entangled in dualism.

Prof. F. Max Müller as well as the late Prof. Thomas Hill Green, the founder of the Oxford transcendentalist school, start from this assumption, that man's mental activity is performed by a something which is quite distinct from it. This something is the thing in itself of the human soul. Prof. F. Max Müller says :

"If mind is the name of the work, what is the name of the worker? . . . It is what we may call the ego as personating the self ; it is what other philosophers call the monon. Let us call therefore the worker who does the work of the mind in its various aspects, the Monon or the Ego."

This conception which asks for the worker of the work is based upon a materialistic view of the human organism. An organism is not a dead machine which must be set a-going by somebody who attends to it. Organisms are active and not passive, they are living and not dead. Every part of an organism is a worker and so is the

whole. And if we speak of its "life" we must bear in mind that "life" is an abstract which denotes a certain inseparable quality of the organism. The work and the worker are two abstracts of one and the same thing. The reality from which these terms have been abstracted is "something working." This something working does not consist of a worker and his work, but the worker is in every part of his work. The worker of our mental activity is the work itself. Both are identical.

The objection is made: "Whence does the activity come which appears in the realm of organised life." The answer is: Activity is a universal quality of all existence. There is no such a thing as absolutely inert matter. Every chemical element combines with other elements spontaneously, according to its inherent nature and not through the influence of a worker manipulating its atoms. Spontaneity is a universal feature of reality. Nature is throughout self-working activity. And this its most remarkable character is preserved in its highest efflorescence in the soul of man.

The present number of *The Monist* contains a lucid presentation of the transcendentalist position by Mr. F. C. Conybeare, an Oxford scholar and a personal disciple of Professor Green, with special reference to the views of Prof. William Kingdon Clifford. Mr. Conybeare, like Prof. F. Max Müller, assumes a Self independent of the reality from which the idea of self has been abstracted, and he attempts to prove the existence of this self as follows:

"In truth there can be no relation of before and after between the two terms except for a self which takes note of the one disappearing and of the other appearing; and whenever we speak of things following one another we tacitly presuppose a self before whom the procession passes."

The transcendentalist adopts, in the realm of psychology, the error of atomism. If we accept the view that the world consists of isolated atoms, we are at a loss how to bring the atoms into relations; the unity of every group of atoms, every thing and every system of things will become a mystery. And if we look upon feelings as unrelated things in themselves, their connection becomes a deep problem. Mr. Conybeare solves this problem of the connection that ob-

tains among the feelings supposed to be atomical, by postulating a relation-producing entity, called the self. He says:

"No link is left, save a connecting self."

And this assumed entity of a connecting self or ego is taken to be "the heart and centre of reality." Reality, that which we have to deal with in real life and what is commonly called reality, appears as a second class of reality in comparison with this assumed thing in itself of our existence. The thing in itself is thus regarded as something realer than real; it is conceived to be a reality of a higher degree.

Mr. Conybeare is very explicit in the explanation of his transcendental "self." He says:

"Feelings constitute a conscious self when they become the feelings of a conscious self and not before, for except as gathered up in the unity of a self which has [sic!] memory and remains the same throughout its differences, feelings can be neither new, nor repeated, nor joined by links."

What does "self" mean? What can it mean? What is the "unity of the self"? These are questions which have not been answered to our satisfaction by the transcendentalists. Whenever they speak of the self, they lose themselves in mysticism. Their "self" is an assumed entity which they have carefully divested of everything real and actual. Their self is transcendental and not a being of the world; it is a myth.

Let us describe the simplest possible instance of psychical activity.

An irritation takes place in some sentient substance. This irritation produces an extra-commotion. We must say "extra-commotion" because all sentient substance is in a state of constant activity. This extra-commotion causes the sentient substance to assume a certain form, and while it lasts, a certain and special feeling takes place in some part of the sentient substance. This certain and special feeling ceases, as soon as the extra-commotion, caused through the irritation, abates. There can be no doubt that certain effects of this extra-commotion remain. Its trace is left in the sentient substance and this trace is preserved in the constant whirl of

the sentient being's normal activity. Now, we suppose that an irritation of the same kind takes place in the same sentient substance. This second irritation finds the substance no longer in the same condition. It finds the sentient substance prepared to receive it. The feeling which now appears is no longer a simple feeling. The second irritation causes a commotion as much as the first, and this commotion acts as a stimulant upon the trace left by the first irritation. This trace being again in a state of extra-commotion is revived and the same kind of feeling appears. Thus the second irritation is accompanied by a state of awareness in which two feelings are blended, the revival of the former feeling and the feeling of the present irritation.

The preservation of traces left in sentient substance is the condition of memory. We understand by memory the psychical aspect thereof, and the act of reviving, so that their correspondent feelings will reappear, is called recollection.

"Memory" has been the greatest stumbling-block to our psychologists as well as to our philosophers. Even modern works written from a positive standpoint treat memory frequently as a mysterious faculty of the mind. Mr. Conybeare speaks of the self as *having* memory, while in fact, memory is one of the features, indeed the most important feature, of mind-activity.

Says Mr. Conybeare :

"Such a feeling [of the togetherness of two feelings] would involve memory and memory involves self-hood."

Memory does not involve any transcendental self-hood. True self-hood, viz. that which can reasonably be understood by self-hood, is not prior to, not the cause of memory; self-hood, i. e. the personality of a man, the organised unity of the psychical aspect of a human organism, is consequent upon, it is the effect of, memory. Self-hood is the product of memory.*

The self is also called the ego. What is the ego?

* See the chapter "Soul Life and the Preservation of Form" in *The Soul of Man*, p. 418.

The ego is a Latin term used in philosophical language to denote the pronoun "I," and the pronoun "I" is quite a definite nerve-structure situated in quite a definite place of the centre of language. As all words, so also the term "I" is a symbol. Its general meaning is unequivocal; it stands for the name of the speaker. It stands for Mr. Brown, if Mr. Brown speaks of himself, for Mr. Smith, if Mr. Smith speaks of himself, etc.

What does Mr. Brown mean when he says, "*I speak, I act, I will, I feel pain, I feel pleasure, I intend,*" etc.?

When Mr. Brown speaks, a certain number of word-structures in the centre of language are in a state of commotion, innervating the muscles of speech. Correspondent to this physiological process, a state of consciousness obtains, which is an awareness of the situation. When he adds: "I say this," it is again a special nerve-structure that is irritated into action and he might just as well say: "Mr. Brown says this." The idea of Mr. Brown, viz. of his own personality, is just as much an idea as his idea of Mr. Smith. The main difference consists in the fact that the idea of one's own personality is very much more important than the ideas representing other personalities.

The nervous structure representing the feeling of the idea "I" must be the centre of innumerable nervous tracts connecting it with all those activities which when performed are thought of as done by ourselves. The "I do this" is almost constantly ready to fill the present state of consciousness and to accompany any action performed through the innervation of other brain structures.

Sentient substance is not always actually feeling. It is feeling only when in a state of extra-commotion. Systems of sentient substance are called organisms; all its structures are interconnected and most so those structures in which sentiency as well as motory impulses are differentiated—viz. the nervous structures. The extra-commotions which agitate the different nervous structures, the memories of former sense-perceptions, of sounds, of words, of ideas depend upon the conditions of the moment. Now this and now another structure will represent the summit of commotion and the feeling of the strongest commotion at a given time will under normal conditions

appear as the contents of consciousness. It is as it were the focus in which the attention of the whole organism is centralised. That which appears in the focus is clear and distinct, while the other weaker feelings rapidly disappear into the undistinguishable general feeling of the organism as a whole, commonly called *cœnæsthesis* or *Gemeingefühl*.

The centre of attention is constantly changing ; yet whenever a thinking creature stops to ask himself, who is doing this ? Who is willing this ? Who is thinking this ? the answer is given : " I am doing this ; I am willing this ; I am thinking this." The structure of the little pronoun " I " seems to be the most ticklish of all ; it is always ready to force itself into the foreground.

The answer, " I am doing this," proposes the *totum pro parte*. The whole personality is supposed to do what a part of it is performing. The hands are executing this work ; these hands of course are innervated from certain regions of the brain. Some parts of the personality are in a relative rest and have nothing to do with the work presently on hand. A commotion in a certain number of brain-structures represents the physiological aspect of a deliberation, perhaps the planning of some action. Psychologically considered certain ideas appear successively and sometimes simultaneously in the focus of consciousness. The ideas disagree and other ideas replace them until a combination is formed in which the ideas do agree. This state of agreement brings a temporary peace into the tumult of conflicting ideas ; the plan is ready ; it may pass into action at once, or, perhaps, the ego-structure will appear in consciousness and will quietly think : " I will do it."

When certain motory nerve-structures are innervated, they cause under normal conditions their respective muscles to contract, they produce motion. Under normal conditions the nervous process accompanying the idea " I will raise my arm " serves as an irritation upon the cortical centre of arm-raising, yet it is not the " I " that in some mystical way raises the arm. The idea " I " has as little and as much to do with this discharge of energy as any other idea. The idea " I " is not the power behind the veil that produces the will.

What is will ? As soon as some plan of action is joined with

the idea that it should be executed, supposing it be not counteracted by any stronger idea that it should not be done, this combination represents a will. A will accordingly is the psychological aspect of an incipient action, and it is usually, or if it is not it can always be accompanied with the thought "I will it." But this accompanying thought however is not the energy displayed in the act of willing.

The "I will it," or "I do it," or "I perceive it" being always ready to appear together with the strongest idea in the field of consciousness, the term "ego" has acquired a specialised meaning. It means that part of a man's personality which at the time is the contents of the "I will," or "I think," i. e. it is his present state of consciousness. Every organism is a coherent system and thus all the feelings of an organism naturally blend into a unity. The strongest feeling however appears in the normal state of waking in a distinct clearness thus representing a centre of consciousness.

However, whether we use the term "ego" in the sense of the idea "I" meaning the whole personality of the speaker, or in the sense of the present centre of consciousness, it designates in either case a definite reality, the origin and action of which are natural facts and as plain as any other psychological phenomena.

Neither the ego-idea nor the centre of consciousness are transcendental. The former is as little mystical as are the ideas dog, horse, man, etc.; the latter no less miraculous than any other feeling or display of sentience.

VIII. THE EGO-CENTRIC VIEW ABANDONED.

The contrast between the old and the new psychology appears strongest in their conceptions of the ego. The former believes that the ego is "the thing in itself" of man's soul and takes it to be the centre of all psychical phenomena, while the latter looks upon the ego-idea as one idea among many other co-ordinated ideas and considers the centre of consciousness as the strongest feeling at a given time, which as such naturally predominates over and eclipses the other feelings of the organism.

The new psychology brings about a change of standpoint similar to that effected by the Copernican system in astronomy. In as-

tronomy the geo-centric, and in psychology the ego-centric standpoint had to be abandoned. And all things seem to be upset to those who are still accustomed to the old conception. To them the physical and moral world-conceptions appear to become impossible. If the new view were correct, so they imagine, the entire universe would break to pieces. All our modes of speech are formed in accord with the old view. We speak of sunset and sunrise, and so in our daily conversation the little pronoun "I" plays a part which makes it seem as if the ego-idea were the centre of all soul-life and as if this "I" were the active agent in all acts of willing and doing.

The advantage of the Copernican system lies in this, that we can think of the motions of the sun and the planets in a systematic and unitary conception without being either involved in contradictions or obliged to invent mysterious qualities in the stars for explaining the velocities, directions, or other phenomena of the celestial bodies. The most important advantage however is the practical applicability of the new theory.

The old theory of the soul necessarily leads to mysticism. Fictitious facts of a transcendent character must be invented in addition to the facts observed, in order to explain the latter. The new theory after abandoning the ego-centric standpoint of the thing in itself of a soul shows the facts of psychic life in an harmonious and unitary conception. All facts agree among themselves and we are not in need of supplementing them with mysterious inventions. It must be emphasised, at the same time, that the new conception throws a new light upon ethics; it shows the error and perversity of all egotism, for it would be a mistake to act as if the ego were really the centre of soul-life.

Here the new psychology comes in contact with religion. What is the practical aim of all the great religions of the world but a surrender of the ego, a renunciation of the self as the centre of our being, and the acceptance of the moral law as the regulative power of our actions? The new psychology gives a justification and a scientific explanation of Christian ethics while the latter from the standpoint of the old psychology necessarily appears as mystical and supernatural.

IX. PERSONALITY AND EVOLUTION.

The ego, i. e. the centre of consciousness, is constantly shifting, while the personality of a man is relatively constant, certain important ideas being stable and thus lending character to the whole system of thoughts and intentions.

The term personality indicating the selfhood of a man is used in several ways. First, we understand by a man's personality his bodily appearance; secondly the whole system of his mentality, viz. his knowledge, his temperament, his character; thirdly the history of his life, past, present, and future; fourthly his position in life, his possessions, his connections, his influence, or at last we mean by it all these four items together. In all these applications the man and his personality are conceived as a unity. And they are a unity. Wherever the term unity is applicable, it is most certainly applicable here. All the many facts of the history of his life are one continuous process; all the parts of his body are parts of a system, and the world of his ideas also will under normal conditions bear a certain harmonious character. Wherever in any soul the concord among the ideas has been disturbed, a state of unrest will ensue until the peace of soul is restored in one or another way. But with the same necessity as every water surface tends to present a smooth level, so the ideas in one and the same soul tend to come to a state of agreement. As every water surface has its ripples so even that mind which has attained an undisturbed peace of soul is constantly confronted with some problems—be they ever so trifling—producing some slight disturbances in his life.

The unity of a self, it is apparent, is the inevitable consequence of given conditions. It is not something which exists outside the personality and its constituent parts, it is in the personality and it develops together with it. Mr. Conybeare supposes that "the unity of a self remains the same throughout." This is an error, and this error vitiates Mr. Conybeare's whole conception of growth and evolution. He says:

"Properly speaking a thing can only be said to grow or develop when it remains the same with itself all through the process and unfolds therein capacities which were anyhow latent in it to start with."

The truth contained in this proposition may be expressed thus : When a thing develops, some part of it remains the same during the change, so that a continuity is preserved. Yet every change of a part of an organism—such is the intimate interconnection of all its parts—produces an alteration, be it ever so small, of the whole unity. And in the course of evolution the character of the whole thing may be changed. Think of the growth of a caterpillar into a butterfly, or of an egg-cell into a man. However, the changes in the character of an adult man will become slighter and slighter the stronger certain features of his existence preserve their sameness, although the most stable personality will, nevertheless, be subject to, at least, unimportant changes as long as life lasts.

Mr. Conybeare, like his master Professor Green and all the transcendentalists, is still under the influence of a belief in the thing in itself. The unity of an organism which is the product of the co-operation of its parts, is not some independent thing whose business it is to gather up their single activities and bring them into relation with one another. The unity of a self is the combination of all those relations which make of its parts a systematised whole, and this unity is changing together with its constituents ; as a matter of fact, we have to state that it does *not* remain constant or the same with itself. Mark that I do not deny the unity of the soul, nor do I underrate the enormous importance of this unity. But I do deny that this unity exists independent of its parts. It is as much immanent in its parts as is a melody in its notes. There is as little a transcendental selfhood as a melody in itself independent of its sounds.

The assumption of a transcendental unity which throughout the process of evolution remains the same with itself naturally leads to a wrong conception of what Mr. Conybeare calls "latent capacities." The terms potential existence and latent qualities are fertile and useful ideas but we must beware not to employ them incorrectly. Any heap of iron ore can be called a potential sword. This is a mode of speaking which expresses the possibility that the ore can be changed somehow into a sword. But the sword does not exist at all, not even as a latent quality of the ore. The ore has no latent qualities of that kind. Those qualities of the ore which represent

the potential sword are very patent to everybody who knows the art of using them properly and changing them into an actual sword.

We may say that the hen's egg contains a potential chick ; but this is a mere mode of speech devised to say that the egg can be changed into a chick under certain conditions. There is no chick at all contained in the egg and nothing that is like a chick.

Evolution is not, as the name suggests, a process of unfolding ; evolution is, as Christian Friedrich Wolff calls it, an "epigenesis," i. e. the process of the additional growth of new formations. The chick is something different in kind from the egg. The unity of the egg-cell organism in the yolk is radically different from the unity of the full-fledged chick. The former shows traces of irritability but not of consciousness, while the latter exhibits unmistakable symptoms of psychical activity. The formation of the chicken-soul is a new formation as much as the growth of feathers. The feathers of the chick are an additional growth ; there are no latent feathers in the egg. We might express ourselves to the effect that the egg contains the potential existence of feathers, but with the same logic, we might say the egg contains a potential chicken broth.

It is however true that something remains constant in the process of growth. There is a preservation of form in the constant change of material particles and this is the physiological basis of memory, so that a man of eighty may say "I remember when I was a child," although not one particle of the substance of which the child consisted is left in him. The continuity produced through this preservation of form makes growth and evolution possible.

The preservation of memory-structures constitutes the possibility of reviving the feelings of the past, it constitutes a preservation of soul. The material parts of the body are thrown out but the form being preserved, the soul remains. And this preservation of the soul is the basis of its additional growth through new and enlarged experience. The soul of the child is not lost in the man, it is preserved. It has lost certain features and at the same time it has gained new features, it has developed, and the unity of the soul has more or less changed with the development.

What is true of the individual is also true of mankind. Man-

kind as a whole is different in the savage and in civilised society. Nevertheless the latter has developed from the former. Certain traits have been dropped, other radically new features have appeared. That which was valuable in the soul of primitive man is not lost. The better part of his soul still lives in the highest developed man of to-day; the continuity is preserved. And to-day all our moral instruction aims at this, so to live that our souls also will be preserved in the future evolution of humanity. The gist of ethics is to make the soul immortal.*

X. PROFESSOR MACH'S POSITION.

The problem, "Are there things in themselves?" is closely connected with the subject of my discussion with Professor Mach. Professor Mach as well as myself are aspiring to arrive at a consistent and harmonious or unitary world-conception. Both of us recognise that things in themselves have no room in a monistic philosophy, both of us recognise that concepts are means only of orientation, they are the mental tools of living beings developed as an assistance in dealing with the surrounding world. They are symbols in which the processes of nature are copied and imitated and which can serve for planning or modeling and thus predetermining the course of nature. So far we agree, but then there appears a difference which it is difficult for me to understand or formulate in precise terms.

Professor Mach objects to the dualism of motion and feeling, which he declares he conceives as a unity not as a duality. But so do I. It appears to me that we must differ somehow in the method of constructing the unity. I see indeed a contrast of physical and of psychical. This contrast, however, in my conception does not belong to the object but to the subject. It is a contrast of our conception of things, but it is not a contrast existing objectively in the real things themselves. The world is not composed of the psychical and the

*The abandonment of the ego as a metaphysical being is not, as it appears to many, a surrender of the soul or of its immortality. That the immortality of the soul from the standpoint of modern psychology is preserved, that it appears in a new light, grander and nobler than before, and that this conception of immortality is of an enormous practical importance, have been the main incentives of Mr. E. C. Hegeler in founding *The Open Court* and *The Monist*.

physical, but certain features of the world are called physical, and others psychical. Both terms are abstracts.

Professor Mach said in his first article and repeats it again in the present article that his former standpoint resembles very closely my present standpoint. When reading Professor Mach's lectures of 1863, I took pains to look for the similarity, and finding many things in which I could agree I dropped the differences taking the agreements as the essential points. In reading, however, Professor Mach's résumé of his former position as stated in this present article, I find that he attaches prominence to several points which I cannot endorse. I do not accept the theory that atoms feel, that they are endowed with consciousness. I have never spoken of atoms when dealing with psychological problems. The term "atom" is a chemical term invented as a help for thinking the equivalence of the weight of the elements which always combine in definite proportions. The term "atom" has in my opinion no sense if applied to other phenomena. The term "atom" has not been abstracted from psychical phenomena nor has it been invented for describing them. There is accordingly no probability that it can find there any appropriate application. We might as well expect that mathematical terms such as lines, points, circles, etc., are applicable in psychology. The idea of conscious circles or points can not in my mind be more absurd than that of conscious atoms. The rule must be observed that we can use abstractions made for a special purpose for that purpose only; they will not serve any other purpose as well. It is true that they are often employed as analogies, but in such cases, we must bear in mind that we are dealing with mere analogies.

In addition to the impropriety of using the term atoms in psychology, it appears to me erroneous to attribute feeling or anything like feeling to physical processes of any description. Natural processes are so constituted, that under certain conditions, such as take place in animal organisms, they will develop feelings. Clifford speaks in this sense of the elements of feeling. Lloyd Morgan calls it metakinesis, and I find that feelings being simply states of awareness represent the subjectivity of natural processes. We have reasons to suppose that in the processes of unorganised nature this

subjectivity is neither feeling nor anything like feeling: but the subjectivity of the natural processes is as it were the stuff out of which our own feelings are formed.

I accept all the arguments of Professor Mach that our ideas are artificial products; and I am also anxious to distinguish in our ideas between that which describes facts and that which has been added to the description of facts in shape of theories or conjectures.

The sense-pictures of objects and ideas also are not things but images and symbols of things created for the purpose of representing things; they are as Prof. Lloyd Morgan says, "constructs." But these constructs are not mere fancy, they are not air-castles. They are constructed in order to imitate certain realities. Now, in building these constructs as an imitation or a copy of reality, we are often at a loss how to build them. There is for instance in the objective reality observed, a something somewhere high in the air, the basis of which is invisible, and being limited in our means of acquiring information we are ignorant of the real state of things. So in reconstructing or imitating the facts, we build scaffolds to support it, and we are too apt to forget that these scaffolds do not represent objective facts but are artifices to make certain facts, which we know in parts only, thinkable, i. e. representable without breaks in mental constructs.

XI. TRUTH IN MYTHOLOGY.

There is one point which I have emphasised and which it appears to me Professor Mach neglects, namely that our noumenal world of ideas has an objective meaning. The ideal constructs represent realities. They do not consist of scaffolds alone and there is no scaffold which has not been erected to help in building up representations of facts. Let us call the representation of facts positive science or simply truth and the scaffolding the mythology of science, and we shall see that the road to truth leads everywhere through mythology. Certain facts of the surrounding world impress themselves upon a sentient being and these impressions come to represent facts. These facts are not seen at once in their causal connection, they appear unconnected among themselves, and in the attempt

to formulate them, to represent them, to construct them in mental images, we fill out the gaps of our knowledge with such inventions as are supplied by analogy.

Mythology is, in religion as well as in science, the indispensable ladder to truth. We cannot build without scaffolds. So we cannot construct truth without mythology. We have to introduce allegorical expressions in order to fill out gaps with analogies.

Mythology becomes fatal to the building up of truth, as soon as we consider it as truth itself. The scaffold is erected simply as an assistance for building and if the building is finished the scaffold should be torn down. The progress of science which is so much helped by mythology has periods of purification in which the mythology is discarded. This is sometimes a difficult task, because the very terms of science are mostly both at the same time truth and mythology, building-stones and scaffold.

Take, for instance, the term atom. The chemist observes that the elements always combine in certain proportions and formulates the law of the equivalence of their atomic weights. In order to think this process, to reconstruct it in mental images, he imagines that matter consists of infinitely small particles of constant weight. This is a fiction useful for its purpose but it may be just as erroneous as the method employed in the infinitesimal calculus of thinking of a continuous curve as consisting of a broken line of infinitely small parts, or of thinking of a certain force as being composed of a parallelogram of forces. The parallelogram of forces is a scaffold helpful for representing in mental symbols the coexistence of different abstractions of the same kind (e. g. motions of a different velocity and direction). But this scaffold is not a mere scaffold, it is not erected without any purpose, its final aim is the description of facts.

The proposition to consider light as rays traveling in straight lines is a scaffold, it is mythology; but this analogy contains a truth, it contains a real building-stone which should not be torn down with the scaffold. This truth is one-sided; it represents one feature of light and disregards other features. It disregards entirely the transversal oscillations of the ether, yet it describes another feature—viz., the transmission and refraction of light for the comprehension of

which we need not take into consideration the undulation theory. The physicist calculates with his formula $\sin \alpha / \sin \beta = n$ the angle of refraction. There is certainly neither a sine α nor a sine β in reality, but there are certain relations of reality which are described in these expressions and the action of the light has a definite quality which can be determined with the assistance of the formula $\sin \alpha / \sin \beta = n$.

If the scientist succeeds in determining such real qualities of things, even though it be done with the assistance of mythology, he discovers a truth. He has with the help of his scaffolds succeeded in placing a building-stone where it belongs.

Some scaffolds have to be torn down because they hinder further building; other scaffolds must remain because they assist us in modeling, and planning, and predetermining certain processes of nature. They are like staircases which enable us to reach with ease otherwise inaccessible places on towers or domes.

* * *

The idea that science is full of mythology appears strange to the non-scientific, and it is often overlooked by scientists themselves. But the idea that religious mythology in spite of its many irrational superstitions and wrong analogies beams with truth is also little heeded by the many. In fact, man's method of reaching truth is the same in religion as in science.

The religious ideas such as God and soul are mental constructs which copy certain realities; but these very terms, such as they are used, are mythological expressions; they are still surrounded by their scaffolds. Many people know by their own experience the usefulness and indispensability of the scaffold. Without the scaffold they would never have had an inkling of the truth, for the representation of which it was built, and it is natural that they consider the scaffold as the building itself. This is the reason why the narrow-minded orthodox denounce anyone who would lay hand on or tear down any part of the scaffold, which has become a hindrance to the further development of religious ideals.

Positivism, i. e. the representation of facts without any admixture of theory or mythology, is an ideal which in its purity perhaps will never be realised. Nevertheless it is no *ignis fatuus*, no will-

o'-the-wisp that leads us astray. Our science is constantly more and more approaching this ideal and the progress of humanity is intimately connected with it.

Science has not merely a theoretic value, its aim and purpose consist in its application to practical life. Science is throughout ethical. Thus ethics has also its mythological phase. In agreement with Professor Mach (p. 204), we should find it ridiculous if one who presumes to be an ethical teacher of mankind would say:

"Man *must* not be descended from monkeys," "The earth *shall* not rotate," "Matter *ought* not everywhere to fill space," "Energy *must* be constant," and so on.

Why is it ridiculous? Because we cannot prescribe a certain deportment to facts. It is however not ridiculous to let a precise and carefully sifted knowledge of facts determine our own deportment.

Science has to teach ethics. But here also we should distinguish between positive facts and mythology. Ethics based upon mere theories, upon our interpretations of nature which we add to facts, is mythological; positive ethics is simply that deportment which is suggested by a comprehension of the facts themselves.

Mythological ethics may be quite correct, just as much so as the application of a mythological theory of science may be within certain limits reliable as a working hypothesis. But it is desirable to understand the nature of mythological ethics in order to distinguish between truth and fiction.

When Professor Mach speaks of sensations as being the elements of the world and of things as being complexes of these elements he apparently does not use the word sensation in its usual sense. It has ceased to be an abstract term which represents one feature only of a process of nature and has become a symbol for an entire reality. And is not such a usage of terms as if they were not abstracts but the things themselves liable to lead to misconceptions?

Professor Mach's "elements," it seems to me, are only elements, i. e. ultimate and unanalysable materials, if considered as terms of a psychological view of the world; they are not elements in the domains of other abstractions, such as are made by physiology or physics. Moreover, although this method eliminates the duality of

soul and body, mind and matter, feeling and motion, it does not explain the problem.

Professor Mach might answer that the problem as to the duality of mind and matter is a sham problem, just as much as the problem why do we see things upright when the retina picture of the eye shows the things inverted? But a problem is to him who has solved the problem always a sham problem. Every problem disappears as a problem as soon as it is solved. It is true that we see as little with the blind spot of the eye as with the skin of our back. The problem of the blind spot is not why do we not see with the blind spot, (which is simply a matter of fact,) but why do we not notice, when using only one eye, its lack of sight in a spot surrounded with sight-seeing structures? We have to employ artificial means to convince ourselves that we are really blind in that spot!

All problems are merely subjective; they are a conflict between two conceptions and as Professor Mach himself says, the solution of problems consists in the adaptation of thought to facts, i. e. to new facts or new views of facts. By an adaptation of our thought to the enlarged field of vision the problem vanishes; it has ceased to be a problem. In fact it never existed as an objective phenomenon. There are no problems in nature. There are problems only to the investigating mind. But even the formulation of problems is a problem to be solved, and perhaps the most difficult and subtle kind of problems is to discover the flaw in wrongly formulated problems.

The problem of the duality of body and soul, matter and mind, feeling and motion, ceases to be a problem to him who has worked his way through to a monistic conception, but to those who have not as yet succeeded in establishing a unitary view of these ideas, because they take them to be separate and distinct existences, it is a problem of great importance.

XII. THE ONENESS OF SUBJECTIVITY AND OBJECTIVITY.

The world is not rigid being, but activity, not absolute existence but a system of changing relations, not an abstract *Sein* but a concrete *Wirklichkeit*—a constant working of cause and effect. There is no dualism in this, for the *Wirklichkeit* is one and undivided.

Yet every relation admits of two standpoints, just as the line AB , which may serve to represent a certain and definite relation, is determinable from both ends, A as well as B . Let us call A the subject and B the object. Neither A nor B is a reality, a whole complete *Wirklichkeit*. A thing in order to be real must be active, it must work, it must stand in relation to something else. A is a mere mathematical point, but AB representing a process does something, it performs work, it is real. A thing in itself, if it could exist at all, would be tantamount to non-existence, it would represent a *Sein* without being *Wirklichkeit*. When bearing this in mind, it appears natural that the oneness of existence, representable in such relations as is that of $AB = -BA$ will admit of two standpoints, BA representing subjectivity, and AB representing objectivity. We can consider the relation of the world at large to one special point (which latter may in its turn stand for a whole system of relations) or vice versa the relation of this point to the world at large. The former standpoint is that of the microcosm, or the soul, the latter that of the macrocosm or the universe; the former results in awareness, the latter appears as matter in motion. The former is subjectivity, the latter objectivity.

Reality must not be conceived of as being a compound of the elements of feeling and of motion, of subjectivity and objectivity or of kinesis and metakinesis. I do not think there are atoms one-half of which contains the potentiality of sentience while the other half is freighted with energy. I conceive of reality as being one throughout, but, being throughout resolvable in relations, it will as a matter of course have two sides. What these two sides are like can be known through experience only, and experience teaches that under certain conditions the subjective side develops into feeling and consciousness, while the objective side is represented in the feeling of conscious beings as motions.

This view explains the duality of our conception of psychophysical facts, but it is certainly not dualism. The duality belongs to the scaffold not to the facts themselves. The facts can only be thought of as being one and undivided, and no conception can stand except it be monistic.

Subjectivity and objectivity are terms that express relations and not things in themselves. There are, however, philosophers who show a great grief unless either the subjectivity of being, or the objectivity of being, or the unities in which things or personalities are gathered up, are considered as things in themselves. All those features of reality which appear to their conception unexplainable, such as the relations that obtain among things and especially the thoughts of thinking beings are supposed to be the effects of some transcendental entity, of a thing in itself. And if a philosophy denies the existence of transcendentalistic thought-entities or of any such things in themselves, which serve as cement to combine the *dissecta membra* of their world-conception, it is generally declared to lead straight on to nihilism—not because the world itself but because their world-system would thereby be annihilated.

All things that exist, if considered as separate things, will pass away; but if considered as parts of the all-existence of reality, they are eternal. In fact things are not separate things, in the sense of isolated, absolute, or abstract beings, although we may speak of them as such for our ephemeral purposes. All things that exist, the human soul included, are and will remain parts of the One and All.

This destroys their individuality as little as a brick ceases to be a brick because it serves its part in the building of a dome. The soul of a man if his life be well spent, is not annihilated in death, his soul has become a living stone in the temple of humanity. It continues to live and marches on in the general progress of the race.

We are parts of a great whole now, and we shall remain parts of the same great whole forever. We have never been and shall never be transcendental selfhoods or metaphysical egos, or any kind of things in themselves. Our personality is real life, it is actual being. As such it is bound up in the universal life of the One and All and no particle of it will be lost. We need not fear death, for the air we breathe is immortality.

EDITOR.

LITERARY CORRESPONDENCE

I.

FRANCE.

THE recent work of M. F. PAULHAN, *Le Nouveau Mysticisme*, places us in the presence of a feature of modern life, if not extremely important, at least very curious.

We assist at the formation of a new spirit. But what is it? What is its value? A reply to this question would exact a long and minute analysis of all social facts. M. Paulhan does not flatter himself that he has exhausted it, and he offers us only portions, although excellent and instructive, of the required work. He shows us in rapid review, the dissolution of the ancient world, the intellectual and moral anarchy which has to-day reached its highest possible point; he seeks, in the ruins amidst which we tread, the constructive elements of a new order of things, and makes an effort to foresee what it will be.

"The scientific mind," writes he, "the religious spirit, pity for suffering, the sentiment of justice, social mysticism, the attraction for mysterious perhaps dangerous facts that we begin to have a glimpse of, the kind of new power which the knowledge of them can give us, a general need of universal harmony; such are the principal characters of the spirit which is forming itself." They are not, he himself says, all new. It is not the presence of these elements which is significant, but rather the singular combination in which they occur, and we could say, the precipitate that they give in the particular chemical solution where they find themselves thrown. In

every case, the phenomenon does not affect entirely, it seems to us, the same characters, according to whether we observe it in the philosophic or scientific order, in the practical order, or in that of sentiment, which literature represents. The name of mysticism does not belong to every part of the new spirit equally ; or more exactly, the spirit which is produced could well not be truly mysticism, but only a side phenomenon, and the very evident resurrection of the spirit which is disappearing.

M. Paulhan, if I do not deceive myself, sometimes allows himself to be too much influenced by a certain literature, to which I do not allow a very great value, and of which even the sincerity may be suspected. It represents at first, to my mind, individual conditions, and it evidently impeaches some authors of a morbid diathesis. Many of our prophets, as is known in the *Quartier Latin*, have or affect vices which exclude by themselves all generating power. Then, it is very difficult, in our age, to appreciate exactly the relations of literature to the public mind, seeing the diversity of romantic books, and the correlation of one to the other is perhaps not so strict, so profound as it has been in other junctures of history. In short, the modern romance is a document the relative value of which needs to be established by a most severe critic.

Some facts dominate the question, viewed as a whole. It is necessary to show the work of the scientific mind, which has the result of creating new mental habits. It is necessary to consider also that the disorder, *the spirit of evil*, so finely analysed by M. Paulhan, corresponds chiefly to the interpretations of ignorance, to the exaggerations of sentiment, and to the dreams, more or less monstrous, of inventive fantasy. It is necessary, finally, if they wish to augur of the future, to endeavor to disengage the laws of construction, still badly defined, of our political fabrics. The thought of M. Paulhan is good at bottom, and the materials with which he constructs the *possible future* are taken from the positive conditions of our mental and social life : in the practical order, "co-operation" is added to the social systems already existing, although disturbed, such as the family and the nation ; in the ideal order, the conception, beyond that of humanity, of a "cosmical whole," and a "uni-

verse," which, to repeat it after Comte, will be favorable to man, in a certain sense, seeing that he causes it to exist.

We recommend the reading of this book. One's time is never lost with a thinker of the stamp of M. Paulhan; he has the merit this time of disclosing to us in a few pages a vast horizon, where some points are delineated with clearness. Logicism has caused much evil in our country. Let us now beware of mysticism!

* * *

One of the most curious episodes of this new mysticism is assuredly the Buddhist preaching, begun in France by a small group of writers. M. AUGUSTIN CHABOSEAU, one of the representatives of this religious tendency, publishes a work, *Essai sur la philosophie bouddhique*,* which it is expedient to mention. M. Chaboseau has thought it would be of interest to sum up in a volume the results of the studies on Buddhism, and to present it "such as science has proved it, that is to say very different from what Christian polemicists, worldly amusers, theosophic fanatics, endeavor to disseminate." He has had the ambition to write this volume, and for my part, I do not refuse him my curiosity.

But that Buddhism truly contains a religious formula capable of attracting to it the souls of our Occident, I have difficulty in believing. This India is very far from us, and its confused philosophy is behind us. I do not think that the nations of to-day will return to a by-gone mode; and then, this doctrine of Sakya-Muni has something against it, that I hesitate to say, as it might seem puerile: its god is too fat. Its god or its sage, as you wish. Yes, that breadth of form, that opulence of flesh, taken as a mark of goodness and power, shocks our artistic taste. Do not forget that every religion which claims our will ought to satisfy our æsthetic sentiment: it is one of the essential factors of the religious sentiment, a compound sentiment where all the emotions of a race ought to find their harmony. The opposition of India to us, so striking in the ideal of the beautiful, still continues in metaphysical speculation. We are too

* Georges Carré, publisher. The other works mentioned in this article belong to the *Librairie Alcan*.

moderate, too sober, for the debauches of imagination in which it delights. Buddhism will be to us only a passing excrescence, and I ask myself if it lives well in the souls where it has sincerely penetrated.

I should have much to do to speak, in the briefest manner, of all the books or treatises, which in a direct or indirect manner relate either to the war of Aryanism against Semitism, and principally against the Christianity in which certain authors see the most disastrous conquest of Semitic genius; or to the reviving of mystic traditions, strange dreams, and monstrous desires; or to a religious restoration, of which the most ordinary prejudice is to assure the immortality of the soul and to reopen the beyond to man. These works are in general of slight value; they are the multiplication of decays, and we are compelled to consider them as social wastes, of which the abundance betrays unquestionably the bad health of the organism, or at least a difficult crisis of its evolution.

* * **

But let us return to the works of philosophy properly so-called. What are we to think of that of M. F. RAUH? I deceive myself much if his *Essai sur le fondement métaphysique de la morale* is considered of much service in his own circles. M. Rauh, who belongs to the philosophic youth, the youth of the age, can be well assured that the partisans of scientific morality will not upbraid him for "the admiration of high metaphysical thoughts" with which he does himself honor, but he can fear lest the metaphysicians accuse him of further compromising metaphysics by the denser obscurities he casts on it. One is stupefied to find again in a modern book a phraseology so made up of abstract words, of substantives with capitals, and logical shadows which affect the posture of realities. Much study, much work, without advancing one step, and still worse, in order to throw us again into the *culs-de-sac* from whence we have had so much difficulty to disengage ourselves. All the profit one can derive from this dialectic is to contemplate at the end the vague shadow of its own body that is perceived on the wall.

The metaphysicians of a certain school are not only reluctant to have to accept that morality is a natural formation, a social pro-

duct, an historical fact ; they wish further that the existence even of moral society should depend on the intelligence that they have of it, or of the explanation that they give of it. They affirm boldly, and these are the words even of M. Rauh, that "the fate of morality is united to that of metaphysics"—their metaphysics. This is a pretension as exorbitant as would be that of a naturalist who should refer the reality of the animal world to the idea he formed of zoological types, or that of a chemist who should subject the value of the positive results of science to a particular hypothesis as to the constitution of bodies.

* * *

There are certain difficulties of language to criticise in the work of M. ISIDORE MAUS, barrister in the Court of Appeals at Brussels, *De la justice pénale, étude philosophique sur le droit de punir*. A curious spectator, he tells us, of the battle waged between the new school of anthropology and the ancient penal jurisprudence, he seeks to divine the issue of it. It will probably end, according to him, in the formation of a medium penal jurisprudence, which will accept limited responsibilities, and which, while protecting society, will do its best "to give to punishment all the advantages it can."

It would be exaggerated no doubt, I willingly grant it, to take away from repression every mark of moral reparation, all weight of "reformative power"; but I am always shocked to hear partial responsibilities spoken of.. From the social point of view, the responsibility remains perfect; it is united, indeed, to the very act of having caused injury, beyond all appreciation. From the point of view of the individual, the word responsibility has the grave inconvenience of implying that the quantity of liberty or freewill attributable to the delinquent is measured. It would be less compromising and more exact, to value simply the quality, the worth of the delinquent, according to the totality of his affective, intellectual, voluntary, and pathological character, according to the nature and the conditions of the act of which he is accused, etc. We should thus escape contradictions of words which easily become contradictions of fact; we should no more stumble at this latent difficulty of free-

will, in medium cases—for *serious cases* are never difficult. Words exercise a tyranny which jurists would do well to distrust.

Is not this, moreover, just about what M. Maus means by his favorite formula—that justice ought “to individualise as much as possible”? It is a pity only that he does not present his conclusions with the requisite clearness. His exposition is not distinct and frank. He has mental habitudes, subtilities of reasoning, which are of value at the Palais, but which it is suitable to rid oneself of when writing a book: his would gain much by being entirely re-modeled, made clear and disentangled.

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M. E. DE LAVELEYE offers to the public a fourth edition, revised and considerably augmented, of his great work, *De la propriété et de ses formes primitives*. We have not to recall the numerous facts which this work contains and the knowledge of which has become sufficiently general; nor to commend M. de Laveleye, who no longer expects fresh praises for it. I have only to express the regret that he should have retained the theory of property expounded in the last chapter of his book, or rather the metaphysical conception of right with which he connects it. It seems as if he wished to excuse himself from reducing property to the simple value of a fact, modifiable in its forms, by indicating as a fixed point an “order” which shall be the best, which shall be *known* and *wished* of God, *sought* and *realised* by man.

M. de Laveleye knows it as well as any one. Right is only a rule, an expression of the relations of men among themselves, in a determined geographical and historical medium. Its changes depend, in part on external conditions, in part on the characters of man himself, the state and variable equilibrium of his passions and of his mentality. If certain forms of right establish themselves proportionally, in the course of the life of nations, the fact is explained by the constancy and the universality of certain conditions, either physical or mental; the repetition of social arrangements, which produces ultimately a more stable structure and constitutes a sort of axis of development, is somewhat analogous, if we may be permitted this comparison, to the repetition of the essential elements in all ar-

chitecture, or of the primitive forms in all the products of the ceramic art. What is the good of enveloping with mystery the ideal we create ourselves, and of rendering obscure a notion that we can positively explain? But let us leave here this little quarrel, for it does not touch the solid groundwork of the book.

Still to signalise are: *Premiers principes métaphysiques de la science de la nature*, translated from Kant by M. M. CH. ANDLER and ED. CHAVANNES, who have written an interesting introduction *On the philosophy of nature in Kant*; and *L'Année philosophique, 1^{re} année* 1890, published under the direction of F. PILLON, former manager of *La Critique philosophique*. There will be found in this last volume two profound studies, one by M. Renouvier on the phenomenist method, the other by M. Pillon on the criticism of the infinite, an excellent article by M. L. Dauriac on philosophy and particularly on the æsthetics of Guyau, finally a bibliography of French works which appeared in 1890. I wish good success to this publication; it will become valuable, and it will be still more so, in my opinion, if M. Pillon, will not recoil before the fatigue, no doubt sufficiently great, of adding to the Bibliography a critical sketch of the review articles published in the course of the year.

LUCIEN ARRÉAT.

II.

RECENT GERMAN WORKS IN PSYCHOLOGY.

A well-known alienist, Professor Pelman of Bonn, in a recently published work, advanced the assertion that the literary taste of the day pointed to a considerable decline of the intellectual health of the present generation. To him who assumes with Pelman some causal foundation of this state of affairs, it is indeed an alarming sight to pass in review the show windows of our great book centres Leipsic and Berlin and to discover the great number of editions that the products of the literature of a certain class are passing through.

Among the books that are at present all the vogue, Tolstoï's "Kreutzer Sonata" stands in the front rank. Numberless articles in the newspapers and the magazines have already made this wonderful work the subject of discussion, both from the æsthetical and from the moral point of view. Now comes a physician, who discusses the psychological aspect of the story, and discusses it in a manner which must claim our interest and to which in the main points it emphasises we cannot deny our assent.

Dr. H. BECK has published at the house of Rauert and Rocco of Leipsic, a brochure bearing the title *Des Grafen Leo Tolstoï Kreutzer Sonate vom Standpunkte des Irrenarztes*, and arrives on the basis of a careful analysis at the result that Tosdnischew is a decidedly neuropathical character. Now as Tolstoï, on his own express declaration in his concluding remarks, places his own views in Tosdnischew's mouth, this judgment respecting the principal character of the story also holds good in great measure of its author. Generally, indeed, Beck is very considerate towards Tolstoï's person, in the expression of his opinions; but he is nevertheless very plainly outspoken when he says at the conclusion of his little book: "Let us characterise this monstrous product, the 'Kreutzer Sonata,' as that which it appears to every person of sound sentiments—as the emanation, namely, of a diseased brain, of a degenerated Psyche."

The Munich physician Dr. Puschmann, who in the year 1873 in a special treatise represented Richard Wagner, then still alive, as psychically diseased, has thus found, as we see, in a certain sense a successor in Dr. Beck. But while Puschmann's pamphlet, having been occasioned by certain conditions of affairs in Munich, was written in a hostile spirit, and while the little book of Beck's makes no secret of its author's aversion to Tolstoï and his works, a notorious representative of unhealthy "young Germany," the novelist Wilhelm Walloth, meets at other hands with an uncommonly tender treatment. There is indeed nothing remarkable in this, for if anyone is in need of tender treatment it is a man who is sick. But it is very remarkable that the diseased state of a nervous system should be accredited to the writer Walloth as a great poetic excellence.

G. LUDWIGS, the author of the treatise *Wilhelm Walloth*, Leip-

sic, 1891, Verlag von Wilhelm Friedrich, had in so far the advantage of Puschmann and Beck, that he was not placed under the necessity of originally demonstrating what the actual state of the nervous system of his hero was, from his works. This condition had already been established by expert physicians in a much talked of trial before the District Court of Leipsic for circulating obscene publications. Ludwigs was able therefore to proceed immediately with his problem of ascertaining the extent to which a diseased state of the nervous system had effect in Walloth's novels and poems. His discussion of this last question possesses great interest for the psychologist, although the reader will find considerable difficulty in accommodating his thoughts to Ludwigs's occasionally very singular style. Setting aside the odd expressions of Ludwigs, we may say that there is exhibited in a pre-eminent degree in the writings of Walloth, first, what the physicians call hyperæsthesia, and by this is meant not only an excessive sensitiveness of the senses but also—a condition that is connected with the last—an extraordinary intensity of the emotional activity. Secondly, are found numberless bold associations of ideas which are much better known to the physician than to the æsthetician.

Unfortunately Walloth is not the only one of the representatives of "young Germany," in whose works the characters of disease appear in such intensity, and the circumstance that books of this class are bought in such numbers and read in still greater, places the tastes and sentiments of a large portion of the educated German public in a questionable light.

If we turn our glance away from the sensational phenomena of literature to the phenomena of ordinary life, which are not uncommonly enacted in the halls of justice, it is in first rank the incorrigible swindlers and sharpers that excite our attention. We have received on this subject from Dr. ANTON DELBRUECK, a physician of a Swiss insane asylum, an interesting little work bearing the title *Die pathologische Lüge und die psychisch abnormen Schwindler*, Stuttgart, 1891, Verlag von Ferdinand Enke. In this book the author makes an investigation of the gradual transition of a normal psychological process into processes exhibiting pathological symptoms, and shows,

in so doing, by ample material, that in every kind of intentional deception the consciousness of intention can exhibit very different degrees of intensity and can imperceptibly sink in a succession of cases to zero. As a matter of course, Delbrück's treatise is primarily of interest to medical experts and lawyers, but it will also be of interest in a secondary degree to all circles that devote their attention to psychological studies generally, particularly so to educators who have not infrequently to do with pathological lies, as G. Stanley Hall quite recently pointed out in a very instructive article in *The American Journal of Psychology* on the lying of children, and as is developed in the work of Dr. Sollier, before mentioned in *The Monist*, entitled *La psychologie de l'idiot et l'imbécile*, which is also to be had in a very good German edition, translated by Paul Brie, under the title *Der Idiot und der Imbecille*, published by Leopold Voss of Hamburg.

In the German edition of Sollier's book Professor Pelman, whom we have above mentioned, has written an introduction in which he speaks of the work in words of praise similar to those expressed by Lucien Arréat in *The Monist*. "Sollier," says he, "has put us into the possession of a psychology of mental imbecility, in a completeness in which hitherto it was not at our disposal." Then follows another passage which we will also quote, as it forms an important supplement to the remarks of Arréat. It is this: "Imbecility had remained the step-child of the science of psychiatry and has not by any means met with the consideration which in view of its social importance is due to it. If we go through the works, as great in number as they are in voluminousness, which have been published in the style of Lombroso on criminals and their peculiar characteristics, we shall be unable to escape the impression produced in our minds that the characteristics of imbeciles portrayed by Sollier recur point for point in the typical criminal. Here as there, the same insufficiency of all ethical development, the same frivolity, and the same incapacity for being of use in society exist. That which in Sollier's explanation decides the whole anthropological position of the imbecile—his anti-social, society-hostile attitude—is emphasised by all writers as the characteristic trait common

to all criminals, and the description of imbeciles and criminals coincides as completely in this respect as if the same individual had sat for both pictures. The conclusions that follow from this can only enlist new adherents in the ranks of the anthropological school, and this result also I should place to the profit-account of the present book."

However profitable and necessary employment with the diseased states of the human soul may be, personally at least it is an unpleasant subject for us, and we are glad therefore that we may abandon this domain for the present letter.

The occasion of this is afforded by a valuable gift from Prof. W. PREYER, formerly of Jena, now of Berlin. Professor Preyer has presented us with a rather large volume bearing the title *Wissenschaftliche Briefe von Gustav Theodor Fechner und W. Preyer. Nebst einem Briefwechsel zwischen K. von Vierordt und Fechner sowie mehreren Beilagen. Mit dem Bildnisse Fechner's und vier Holzschnitten.* Hamburg und Leipsic, 1890. Verlag von Leopold Voss. The work contains a correspondence extending from the year 1873 to the year 1883, in which the two distinguished scientists discuss (chiefly) myo-physical and psycho-physical questions, and will be of great interest to many readers of *The Monist*, especially as it makes its appearance simultaneously with the issuing of a new edition of Fechner's *Elemente der Psychophysik* by Wilhelm Wundt.

The much fought over and much disputed province of psychophysics has also been entered on by a younger psychologist, who has already acquired a considerable name,—by Hugo Münsterberg, docent at the university of Freiburg in Baden. In his *Beiträge zur experimentellen Psychologie*, which are published in parts at indefinite periods by Mohr of Freiburg in Baden—three parts have already been published—Münsterberg raises, in the first place, a vigorous protest against Wundt; repudiating on the basis of the results of independent experiment the apperception hypothesis which has been propounded by the scientist mentioned, and producing proof that all kinds of so-called apperception are reducible to associations of the representative activity. Secondly, he offers us in the third part a new foundation on which to base psycho-physics.

It is, of course, impossible, in so difficult a subject, to reproduce briefly yet clearly the developments to which Münsterberg devotes one hundred and twenty-two pages. But we will at least supply a few hints with regard to what this new foundation of psycho-physics is.

In the first place, Münsterberg rejects the notion that prevails with Fechner and his school, that a powerful sensation is a multiple of a weaker one, by which the first can be measured. The stronger sensation is, says he, in comparison with the weaker one something wholly new; for, accurately considered, the intensity of a sensation is also of a qualitative nature. However, we are not by any means at liberty to infer from this that the measurement of psychical quantities is impossible. To appreciate this, it is first requisite that we should get clear ideas with respect to the psychological foundation of our physical measurements. The only foundation of these last is our muscular feeling, to this extent, that all measurement is founded on the measurement of quantities of space, time, and mass, and any estimate of the latter is only possible on the basis of the muscular feeling that enters as a factor in the conceptions involved. All physical measurement rests on the establishment, and therefore reproduction, of *like* muscular sensations; on exactly the same foundation rests also all measurement of psychical quantities, of intensities of sensation, and since this foundation is the same, for this very reason the same justification is due to the measurement of psychical intensity as is due to physical measurements. This is the foundation on which the psycho-physics of Münsterberg is raised, which for a fuller view must be studied in the third part of the "Beiträge" itself.

Altenburg, November, 1891.

CHR. UFER.

DIVERSE TOPICS.

THE CLERGY'S DUTY OF ALLEGIANCE TO DOGMA AND THE STRUGGLE BETWEEN WORLD-CONCEPTIONS.

A LATE number of the *Gegenwart* of Berlin (Vol. xl, No. 30) contained an article by Mr. Eugene Schiffer, a German justice, on the subject "World-Conception and the Office of Judge," in which attention was called to the fact that the performance of duties, not only in the pulpit but in all the professions, and preëminently in the dispensation of justice through the courts, depends upon and stands in a more or less close connection with some definite world-conception; thus showing that religion of some kind forms and must form the background of the practical life of society. He says:

"The Church demands of its disciples as an indispensable condition of serving her the confession of a certain world-conception; she requires that every one who intends to take upon himself her rights and duties, should in his inmost heart agree with her concerning the contents of her faith, especially concerning the dogmas on eschatology, on God and world, body and soul, the origin and end of things; and this is but a matter of course, for the essential part and also the foundation of her activity lie in these very doctrines and in their propagation. It is a hard and a severe demand. Although on the one hand the morally free fulfilment of her requests contains the germ of an harmonious development of life and promotes an extraordinary concentration and elevation of all faculties, it leads on the other hand to serious conflicts, of which the pages of history not less than the experiences of our daily life exhibit innumerable and sad instances. We recollect the terrible spiritual struggles in the souls of those who commenced to doubt, and the outcome is generally a pitiful catastrophe, either submission and hypocrisy with the weak, or tribulation, renunciation, and ruin with those who thought higher of truth than of their worldly emoluments.

"Most of the other professions and trades know nothing of the indispensability of a certain world-conception. The merchant, the mechanic, the lawyer, the soldier, the teacher, the laborer, can upon the whole think concerning these highest problems of life as they please. An inner and ideal conflict between their

"views and their calling seems definitely excluded. Outer and practical conditions
 "—such as administrative injunctions of a certain kind, the aspiration of progress,
 "the ambition to be better off, etc.—may sometimes produce conflicts.

"Yet this character of indifference concerning a general world-conception which
 "is found in the secular professions and trades does not bear the stamp of perma-
 "nence. For ultimately the entire doing and achieving of every thinking man, so
 "far as it rises above the mere vegetative functions, is intimately connected with
 "that common world-conception which everywhere influences and guides him. This
 "is unnoticeable so long as the harmony of the connection remains undisturbed,
 "but it manifests itself in consciousness as soon as its harmony is threatened through
 "some important change of any of its parts. Even to-day a deep-going change
 "is preparing itself; even now the struggle about the world-conception is fought
 "more severely and more bitterly than ever and a new doctrine goes far enough to
 "uncover the ultimate roots of our civilisation, of our position in life, of our call-
 "ing; it attacks and shakes the present world-conception.

"This implies the possibility of a conflict between the old and the new faith
 "even outside the pale of the church, and this conflict may influence the choice of
 "a calling. This possibility has become an imminent probability concerning the
 "office of judge, especially the judge of a criminal court.

"The dispensation of justice rests to a great extent upon the presupposition of
 "guilt and the criminal law of to-day is almost throughout built upon this idea of
 "guilt. It is true that this view has not always been taken. The Greek law and
 "the old Germanic law interfered even in the gravest cases exclusively on account
 "of the objective state of things without taking into consideration the criminal in-
 "tent of the defendant. But this view was superseded in the former case by the
 "Roman, in the latter by the canonical law, both requiring the conception of a
 "moral and a subjective guilt, and at present the criminal law of every civilised
 "nation (with the sole exception of the Chinese who threaten with capital punish-
 "ment him who accidentally kills no less than the intentional murderer) rests upon
 "the foundation of a belief in guilt.

"But there is no room for guilt in the materialistic world-conception. Every-
 "thing that happens, the activity of the human soul included is to be explained ac-
 "cording to mechanical principles and thus the view that man's will is not free is
 "proposed as one of its fundamental doctrines. While in this way there is no possi-
 "bility left that a man might have acted differently than he actually did, this view
 "takes away his responsibility. And this movement which either cancels or weak-
 "ens the momentum of guilt, has taken hold of the minds of men far beyond the
 "circle of decided materialists.

"The foundation of our criminal law stands or falls with the idea of guilt.
 "With it stands and falls also the office of the judge, whose duty is the dispensation
 "and utilisation of justice. He who does not believe in the possibility of guilt can-
 "not without inconsistency pronounce any one guilty. He who as a matter of prin-

"ciple or at least within certain not well defined limits denies the freedom of the human will can no longer serve as a judge, certainly not as a criminal judge."

Justice Eugene Schiffer is a conservative man. He demands that for the protection of the old world-conception the office of judge should be carefully guarded, against such intruders as are not in sympathy with the present world-conception. He says:

"Exactly as the church, in order to preserve herself and to guard against her theology being diluted into a watery philosophy of religion, is bound not to separate the conditions of her life from a definite world-conception, so also justice, in order to deserve its name, should oblige its servants to take a definite position toward the ultimate world-problems. . . . He who does not accept in his conviction the moral foundations of a certain calling, must not choose it, or if he has chosen it, he must renounce it—or he must in his profession act against his conviction—unless he risks being discharged from his office on account of a neglect of duties."

We agree with Justice Schiffer in one most important point, viz., the intimate connection of religion with practical life and of our world-conception with all our doing and achieving. But we differ from him in another no less important point, viz., in the proposition to prevent the present world-conception from undergoing a further growth and higher evolution. His proposition is nothing less than to make humanity and all its institutions stationary.

Everything that exists has a natural right to defend its existence, and so has the present world-conception. But that which grows and develops out of the conditions of the present existence has also a natural right to attain existence. The ideal world of the "is to be" is not a non-existence, as it might appear to the unknowing, but a germ existence, and if there is no room for both the actual existence of the present state and the germ existence of a new state, a struggle will ensue. There are at present and always have been many spurious world-conceptions which if they overcame the present world-conception would lead humanity backward to the beginning of civilisation. Indeed most propositions of reform are reversals which would undo the results of evolution and reduce mankind to primitive conditions. The fermenting minds of those who still hope to cure all the ills and woes of society by one stroke, have not yet outgrown the idea of the perfection, nobility, and happiness of the so-called original state of nature,

"When wild in woods the noble savage ran."

Yet among all the plans of reform there is one which is correct, answering the wants of the time; and among all the world-conceptions which struggle to exist there is also one which is the legitimate outcome of the present world-conception. It is the present world-conception enlarged through additional experience and purified of certain errors. And it is an often repeated occurrence in history that the old and the new, father and son, have to fight with each other. The heir apparent either does not know that he is the child of his antagonist, or the latter the defend-

ant of the present state does not know that he fights with his own son. This often repeated fact has found a mythological expression in the old Teutonic song of Hildebrand meeting in combat his son Hadubrand, a legend which in similar versions appears again in other Aryan sagas, the best known of which is the tale of Rustem's struggle with Sohrab in Firdusi's great Iranian epic.

Can the struggle between the old and the new world-conception be avoided? No, it cannot and should not, for the new has to prove its legitimacy by showing its intrinsic strength; it must show that it has the power to exist. The struggle cannot be avoided, but the bitterness, the severity, the barbarity of the struggle can be avoided. Let Hildebrand and Hadubrand measure swords in a spiritual encounter, let the vanquished ideas yield to the stronger ideas, and they will prepare the gradual change of an evolution instead of the sudden rupture of a revolution.

Freedom of thought is always the best soil for a peaceful evolution but any system that binds the consciences of men and ties their ideas down to the average level of a certain age will be as dangerous as a boiler without a valve. There are periods of instability in history when the strengthening of the conservative spirit by imposing fetters upon the consciences of men appears useful and almost a condition for the development of some kind of a civilisation. This found expression in the historic legends of Lycurgus and Solon, binding their countrymen by oath not to alter the laws of the state. But these periods are after all ephemeral, and we ought to know by this time that we cannot bid the sun stand still or check the spirit of progress and the growth of mankind. There are nations which develop slowly because they rush into innovations, but there are other nations which have gone to the wall because of over-conservatism through which they were induced to suppress the freedom of thought and to deny the right of doubting the absolute validity of the prevailing world-conception.

The proposition of Justice Schiffer to bind the conscience of the judge by an oath of allegiance to that world-conception which is at present recognised as orthodox, is actually a law in the constitution of the church, and conflicts in the consciences of clergymen are of a common occurrence. The opinion that a clergyman who has ceased to believe in certain dogmas of his church has to resign his position is very common among freethinkers as well as orthodox believers. At first sight this seems to be the only choice left to a man of honesty and a lover of truth. I held this opinion myself for a long time. There is nevertheless another view of the subject which caused me to change my opinion entirely, and I am glad to perceive that such a man as Mr. Moncure D. Conway who held himself a position in the church and having grown more and more liberal has retired from active service, declares most emphatically that a clergyman who has grown liberal should not resign but stay in the church and wait till the church forces him to leave his position. This is an honest course, a clergyman has a right to pursue it and he will thereby open the eyes of his fellowmen; he will further the interests of mankind,

and people will thus be enabled to judge better whether or not it is just to impose these burdens upon the pastors of the church.

Let us consider the case more closely. First, the oath which a young clergyman gives at his ordination is a promissory oath, and like all promissory oaths it holds good on the supposition that all the main conditions remain the same. If a man promises and binds himself by an oath to start to-morrow morning on a journey he does so on the supposition that it will be possible. So far as he can foresee it is possible, but incidents may happen which will make it impossible to-morrow. A promissory oath will be a weight on the conscience if it has to be broken, but it has no legal force. Thus soldiers swear an oath of allegiance to their king, and under ordinary circumstances there will be no cause for doubt as to the propriety of remaining faithful to the oath. But many cases of great perplexity will appear when a civil war splits a nation in twain so that brother stands against brother and faithfulness to the king may be the most degrading felony toward one's highest and holiest ideals, perhaps also toward one's bodily parents and nearest kin. Who does not recollect the sad end of Ludwig II, king of Bavaria. When the mind of the unfortunate monarch was too much deranged to leave him in possession of his royal power, a commission of several authorised men went to the castle where he resided to place him under the care of a physician. The king refused to receive the commission and ordered his faithful guards by whom he was surrounded to seize the commission, gouge out their eyes and treat them otherwise in the most outrageous way. The commission not being protected were for a moment in great danger, but happily the guards perceiving the seriousness of the situation did not execute the king's orders and we might say,—broke their oath.

Did they really break their oath? No, they did not, for when they were sworn to obey their sovereign master and lord, it was supposed that the king was and would remain in his right mind. He became insane and this changed the situation entirely.

The oath of allegiance which the ministers of a church swear at their ordination is made in the bona fide conviction on both sides,—the church on the one side and the man that takes orders on the other side,—that the dogmas to which he pledges his troth are the truth. The oath holds good so long as a minister believes that the dogmas of the church are the truth; it still holds good so long as he considers it possible that they may be true. But the oath to believe them ceases to bind in the sense in which it was demanded as soon as a minister sees clearly that they are not true and that their truth is an actual impossibility. It ranks in the same category as the oath of allegiance to a sovereign who has become insane.

But the case is more complex still. If promissory oaths have no legal force because in certain cases a man would have to act against the letter of the oath, have these oaths no binding power whatever, as soon as a minister recognises the incongruity of the church belief with truth? I should say that they have a binding power, yet this binding power must be sought not in the letter but in the spirit of the oath.

One of the most prominent of juridical authorities, Prof. Rudolf von Jhering, has written a book entitled "*Der Zweck im Recht*." He finds that all laws, all wills, all decrees have a purpose, and this purpose is their spirit. There are laws worded so badly that obedience to the letter of the law would under certain and unforeseen circumstances enforce exactly the contrary of that which the law was made for. Instances of this kind are of not an uncommon occurrence especially with regard to wills; testators and their legal advisors being often unable to formulate their intentions in a logical shape. Jhering maintains that a judge in construing a will, a decree, or a law has to find out the intention and purpose of the testator, the magistrate that gave the decree, or the legislator, and it is this intention or purpose with which his decisions have to agree. Supposing however that this purpose of a will or a law is wrong in itself or nonsensical, a judge has to construe it so that it will have sense. If the purpose is criminal the whole transaction is illegal, if it is irrational or illogical, it has to be interpreted so as to make it rational and logical. If it has reference to antiquated views, customs or institutions it has to be adapted to the corresponding modern views and to existing conditions.

An instance from practical life will explain the last point. There are many institutions in Northern Germany which were founded as cloisters or monasteries. The nuns and monks have been engaged partly in teaching, partly in attending to the sick, and in other useful purposes. The funds of these institutions exist still, and serve now those purposes directly which they have served formerly indirectly through the service of nuns and monks. Most of them are employed for the maintenance of schools, some of them as hospitals, others as homes for unmarried daughters of government officials or for homeless aristocratic ladies without means, etc. These changes have been wrought by history as the natural consequence of new conditions. Many of them were made in actual violation of the letter of the testators' will; yet they were made bona fide with the intention to remain faithful to its spirit? The question is not what a testator intended his will to be half a millennium ago, but what he would intend it to be in the living present, knowing all the changes which the progress of the times have wrought and having progressed with the times.

Before we answer the question, What is the purpose of the minister's oath? we should first see clearly, what is the purpose of the church. Is the purpose of the church really to be sought in the propaganda of some absurd dogmas? Or does not rather the preaching of these dogmas itself serve a purpose?

The dogmas of Christianity were some time ago supposed to be the indispensable instruments of ethical instruction. All the churches are educational institutions to inculcate the moral ought on the basis of a popular world-conception. The church of England for instance is a national institute and it is not true that one church party has the right to impose its religious conception upon the rest of the nation. When the church was founded some crude notions were taken to be absolute truths and no man can at the present time be required to believe these crudities. All institutions are conservative but most conservative are the courts of jus-

tice and the church. The conservatism of jurisprudence is characterised in the saying which appears to be its leading principle *fiat justitia et pereat mundus*. Jurisprudence too often forgets that the dispensation of justice serves the purpose of sustaining life, of promoting the general welfare and enhancing the prosperity of the community; it overlooks the spirit and clings to the letter.

Our justices are inclined to believe that if a new world-conception arises, (which by the bye will as we believe not be materialistic nor will it destroy the idea of moral responsibility, although it may change our views about guilt,) their whole system of jurisprudence will break down. They are afraid of a *percat justitia et vivat mundus*. Justice Schiffer is not at all anxious to prove the truth of the old world-conception, he is satisfied with proving that the new world-conception is incompatible with the old view of justice. Criminal law means punishment and punishment presupposes the idea of guilt. He argues;

"The question remains whether the conflict between the new and the old world-conception could be avoided by adapting our views of justice to the new world-conception; yet this question is to be denied, for the notions of guilt and punishment belong to each other according to logical, ethical, and moral principles. To punish without assuming guilt is as nonsensical as it is immoral."

It would lead us too far here to show that moral responsibility still subsists on the supposition of a strict determinism and that the criminal law with its punishments will not be abolished in the future. Yet there is no doubt that our views of punishment will have to be changed; indeed they have changed and how much they have changed, can be learned by a comparison of an execution of to-day with one of a few hundred years ago. The idea of punishment in the sense of inflicting pain as a retribution has gone and it has gone forever. There is no more burning of the criminal with hot irons, or twitching with hot tongs, or tearing out his tongue, or stretching on the wheel. The criminal is executed with as little pain to him as possible. Why this change? Because a new world-conception has entirely altered our views of punishment and it is going to alter them still more. Penology is not to be based upon sentimentality as some so-called philanthropists intend to do; nevertheless it is to and it will become humane because we have abandoned the old conception of guilt which as Justice Shiffer correctly states was a fundamental idea in the old jurisprudence, and this antiquated conception of guilt has partly but not as yet entirely been overcome.

The church is in a position similar to that of the criminal law courts. A change of our world-conception has set in and the church is not as yet adapted to the change. The church having found it necessary for its purpose of preaching ethics to insist on the belief in a world-conception which demonstrates a moral world order, now attempts to perpetuate certain errors of our ancestors' conception of this moral world-order.

The oath of a clergyman having been asked and given bona fide on the supposition that the dogmas of the church were the truth, holds good still, but it must be

construed as in similar cases a judge would have to construe a faulty will or an ill-worded law. It has to be construed in the spirit and not in the letter.

Clergymen who have grown liberal should not leave the church. It is their duty to stay in the church and to make their influence felt to broaden the spirit of the church. If the church removes them from their position, they yield to the authority at present in power, but they should not yield without a struggle, to be conducted on their part modestly but firmly, with reverence toward their authorities, with tact and decency, but fearlessly and bravely, for they are fighting not only for their personal interests but for the progress of mankind, they are fighting for the holiest treasures of the church—for truth.

The abolition of these burdens on the consciences of the clergy would be a natural consequence of repeated struggles. Let a pastor be bound to respect his church authorities, to obey them in all matters of administration, let him be bound to revere the ecclesiastical traditions of which he should never speak lightly, but do not prescribe to him a belief of any kind. Pledge him to serve the truth, to speak the truth and to live the truth; and that simple pledge will have more weight than the requirement to believe dogmas which, his superiors know but too well can no longer be believed literally but must be taken *cum grano salis*.

Christ says concerning the observances insisted upon by the Scribes and Pharisees: "They bind heavy burdens and grievous to be borne: and lay them upon men's shoulders." This passage is applicable also to the present system of ordination. Christ's saying is read in the churches and it is, as most of his words are, as new to-day as it was at his time, but who thinks of its application to our present system of burdening the consciences of men?

P. C.

A COMMENT BY PROF. F. MAX MÜLLER CONCERNING THE
DISCUSSION ON EVOLUTION AND LANGUAGE.

To the Editor of The Monist:

I must thank you and Professor Romanes for the frank and searching criticism to which you have both subjected my article on "Thought and Language," published in *The Monist*. You have shown that you care for truth and not for victory, and you have carefully abstained from any personal remarks which are so apt to embitter scientific controversy and in consequence to render its chief object, the discovery of more truth, illusory. We all have the same object, we all want to know what is true—why then should we not all work together, listen to friendly criticism, accept useful advice, confess our mistakes, and work as hard as we can in the special field allotted to each of us.

As soon as I find a little more leisure, I shall not fail to reply fully to both your articles. At present I only write to you to defend myself against an undeserved charge brought against me by Professor Romanes. I had said that Professor Romanes had no right to speak of men like Noiré, Huxley, Herbert Spencer, to say nothing of Hobbes, with an air of superiority. Professor Romanes replies that he never mentioned Mr. Herbert Spencer at all, that it would have been well for me, if, before condemning his supposed treatment of Herbert Spencer, Huxley, and Noiré, I had looked at his Index. This is a serious charge. It would show a want of accuracy unpardonable in a scholar. It is true, Mr. Herbert Spencer's name does not occur in the Index. But on p. 230 we read: "So here again we meet with additional proof, were any required, of the folly of regarding the copula as an essential ingredient of a proposition." Now it is well known that it is Mr. Herbert Spencer who regards the copula as an essential ingredient of a proposition. I have shown that the facts of language are against Mr. Herbert Spencer, but I should not therefore think it right to charge him with folly. This will show that if I wrote without Index, I did not write without book.

Yours truly,

Oxford, Oct. 28, 1891.

F. MAX MÜLLER.

BOOK REVIEWS.

SYNOPTIKER. APOSTELGESCHICHTE. Bearbeitet von Professor *H. J. Holtzmann*.
Zweite verbesserte und vermehrte Auflage. Freiburg, i. B.: Akademische
Verlagsbuchhandlung von J. C. B. Mohr. 1892.

This book is the first volume of the "Hand-Commentar zum Neuen Testament" edited by the Professors *H. J. Holtzmann*, *R. A. Lipsius*, *P. W. Schmiedel*, and *H. v. Soden*.

No better man could have been selected for the first part of this great work than Prof. *H. J. Holtzmann*, who is not only a theologian of most comprehensive scholarship but also has devoted his energies to this special subject. He has lectured regularly for a number of years at the university of Strassburg six or eight times weekly on the synoptic gospels and three times weekly on the Acts. The principle of his method has been laid down in a former work of his, viz. "*Lehrbuch der historisch-kritischen Einleitung in das Neue Testament*." The present book contains an enormously voluminous material condensed into a comparatively small space of 448 pp. large octavo. The author being a theologian his attitude toward his subject is naturally reverent, paying an unreserved homage to the greatness of Jesus. Yet at the same time his investigations are strictly scientific and in accordance with the rules of criticism as employed in any historical investigation. It is no exaggeration to consider Professor Holtzmann's work as representative in the highest degree; it embraces the most complete knowledge at present attainable and that too in a most concise form as a practical hand-book with parallel tables and indexes of reference for students of the New Testament.

The author first formulates "the synoptic problem," which has been solved after innumerable vain attempts by the so-called "Marcus-Hypothesis," which is at present considered as satisfactory, because it alone fulfils every condition and explains all the difficulties. Holtzmann regards the figure of Christ as historical. The impression of his powerful personality was a living presence in the first congregation at Jerusalem. But all the interest centred in his words. The words of their Lord were faithfully preserved by oral tradition. Sentences so short and yet so pregnant with meaning as "Blessed are the peacemakers," or "Ye are the salt of the

earth," "But let your communication be, Yea, yea : Nay, nay, etc.," are so impressive that whoever has heard them once, will never forget them. The interest in the word was soon complemented by an interest in facts and events which was much later followed by an interest in dogma. The first differences among the Christians originated through the mission among the heathens. The gentile Christian became indifferent concerning the Jewish traditions and clung with all his religious enthusiasm to the Christ as his saviour. Christianity became a cosmic religion while the Jewish Christians still looked upon Christ as the Messiah of the people of Israel. The Jewish view of Christianity is represented by Matthew, the gentile view by Luke. Mark however does not show any development of dogma. According to Papias, the Apostle St. Peter had whenever it became necessary for an explanation of the words of Christ, occasionally told certain events of the life of Jesus ; which were afterwards written down by Mark. We find in Mark, Matthew, and Luke the same building stones, but how differently arranged ! Mark shows evidence of relating real facts of history, he begins with John the Baptist, tells us how Jesus became baptised, how he preached the kingdom of God ; according to Mark, Jesus does not declare himself as the Messiah from the beginning. His activity grows by degrees, his disciples increase, he heals the sick, and it is from the mouth of these that he was first proclaimed as the Messiah. He becomes a power among the people and makes himself offensive to the authorities who consider him as dangerous and attempt to take his life. Jesus forbids those whom he heals to proclaim that he is the Messiah. He sends out his disciples not to preach him as the Messiah, but to proclaim the kingdom. At last in Peter the idea dawns that prompts him to declare : "Thou art the Christ." Yielding before the persecution of his enemies, Jesus travels North and East and here he accustoms himself to the idea of a suffering son of man. His self-confidence increases and he travels courageously to Jerusalem where, as he could foresee, he would meet his fate. The drama of his life culminates in his word "*ὁ υἱὸς τοῦ ἀνθρώπου*" (1462) in which he reveals his self-consciousness as being the Messiah. Being triumphantly hailed in Jerusalem by people of Galilee and such as believed in him he hastened his doom. It is not likely that Jesus could have publicly been held to be the Messiah for any length of time, for the Roman police was wont to suppress such movements without discrimination. They did not stop to investigate the case as to the character or motive of the movement whether or not it was purely religious or political. They never tolerated any "son of David" or "king of Israel" who held any influence over large masses of the people.

While Mark still preserves the development of Jesus's messianic consciousness, Luke as well as Matthew have entirely obliterated it. According to Mark, Jesus proclaims the kingdom ; Matthew and Luke make him preach his person. They make Jesus proclaim himself as the Messiah from the very beginning and his command not to speak it out openly given to those whom he healed and also to his disciples has no sense here. Matthew has a liking for cabalistic numbers, there are

three times seven generations the names of which are not without doing violence to historical facts adjusted to the pattern, there are three temptations, seven parables, etc. Throughout we notice reflection, purposive selection of the material, and artificial adjustment to a plan. The book has a tendency to show that Jesus was the King of Israel predicted by the prophets and in the psalms. Luke on the other hand has also a dogmatic programme. It is the gospel of gentile Christianity as founded by Paul.

The critical school finds adversaries among theologians as well as unchristian thinkers, both of whom are apt to speak of fraud when religious books are written with certain dogmatic tendencies. Professor Holtzmann objects to such a view of the development of Christianity. He says that a religion which did not rouse sufficient enthusiasm to develop a religious poetry would be very poor and lifeless. Even the apocrypha of the New Testament are evidence of the vigor of the new religion, although we must be aware of the fact that the Church showed good judgment when adopting its canon to accept those which were full of moral meaning and to reject those which were mere myth without any deeper significance.

We have given this abstract of one part of Holtzmann's work with the omission of all the learned by-work for those not familiar with theological investigation. Similar results are obtained by an inquiry into the origin of the Acts. The apostles were the first and living representatives of the Christ. Out of the interest in the apostles' words grew an interest in their actions and lives, and there are a great many writings of this subject preserved. One only has been received into the canon.

It is impossible to follow Professor Holtzmann into the details of his work, but we can warmly recommend it as the best compendium existing, not only for the student of theology but for everybody who is interested in the results of the scientific criticism of the synoptic gospels and the Acts.*

KPS.

SCHRIFTEN DER GESELLSCHAFT FUER PSYCHOLOGISCHE FORSCHUNG. Heft 2. Ueber Aufgaben und Methoden der Psychologie. By *Hugo Münsterberg*. Leipsic: Ambr. Abel. 1891.

In this monograph Professor Münsterberg prepares the way for greater and more important work. His aim is to define the province of psychology and to investigate the methods which have to be employed. Psychology is not philosophy; accordingly the consideration whether there is a reality of an outside world does not belong here. The psychologist is not bound to wait till this and other metaphysical questions are decided with certainty; the reality of the outside world has simply to be assumed together with its cognisability.

What means 'to explain'? "To explain means simply to render clear that which is not clear or to reduce the unknown to the known, the complex to the simple (p. 104)

* A companion work on the Old Testament has been written by Professor Cornill. We shall review it in our next number.

... It is an indispensable presupposition of any natural science to consider nature as being capable of explanation (*erklärbar*), and this presupposition means that natural processes can be perfectly separated into most simple mechanical processes. This presumption can be realised to-day only on the basis of the atom-conception. It is accordingly not an experience, but a postulate of natural science to derive the whole material world-process from the mechanism of atoms. A description becomes an explanation in the measure in which it approaches this aim" (p. 105). The question is, whether in psychology, description can be supplanted by explanation, whether laws can be stated instead of mere rules.

Professor Münsterberg takes that ground in psychology which as it appears to us is the only tenable ground, viz. that feelings are not motions and cannot be explained as converted physical processes. Professor Münsterberg says: "A sensation, a feeling, a will can never fill even the very smallest space. What is extended in space can never itself be a state of consciousness. To the psychologist this distinction is now a matter of course, so much so that it is difficult to call to one's mind how much trouble it cost to acquire this insight. The object of psychology accordingly can never be an object in space, it can never be a process of motion, accordingly, even brain-irritation can under no circumstances ever become the object of psychology" (p. 97). Psychology has to investigate the psychical phenomena of the individual consciousness (p. 102), it has to separate it into its elements, i. e. those ingredients which are no longer divisible, which being done, psychology searches for the rules for the combinations of these psychical elements and shows us the different complex contents which are formed in this way by the elements up to that totality of single combinations which is given us as the contents of our spiritual personality (p. 103).

The question is, (1) Are there psychological processes in us, the development of which presents itself with immediate certainty as necessary, and (2) can we reduce all the individual and with them all the spiritual phenomena to such spiritual processes recognised as necessary? The first question can be affirmed, although only in a limited sense, and the second question must be unequivocally denied, thus making an immediate explanation of psychical phenomena impossible" (p. 107). The first question is to be affirmed in a limited sense, because "if certain premises are thought, the conclusion, it appears to us as a necessity, can be thought thus and not otherwise" (p. 108). But this is "a logical and not a psychological necessity." To actually think the conclusion depends upon the will to think it. The will actually existing, the logical necessity becomes a psychological, for "the connection between the willing and the willed (*zwischen Willen und Gewolltem*) always appears to us as necessary. . . . Where there is inner will there is an inner necessity." Now, in order to make explanations in the physical world, we supplement that which has been actually observed with not-observed connections. But we cannot, according to Münsterberg, in an analogous way supplement in the world of psychical phenomena the conscious states with any other kind of states which are not conscious, thus re-

ferring our spiritual life and acts of will to unconscious processes, for "the very nature of psychical states is consciousness, i. e. a state of being conscious. Ihr Sein ist das bewusst-sein. . . . A state of consciousness, says Münsterberg, which is not conscious, is comparable not to a body which is not perceived, but to one which does not exist. Accordingly unconscious psychical phenomena do not exist. All psychical phenomena are directly given and the reduction of their combinations in a certain way through hypothetical psychological supplements is once for all excluded" (p. 110).

We agree in all the main positions with Professor Münsterberg, but in the last mentioned point we disagree. Professor Münsterberg limits psychical states or feelings to states of consciousness without considering that there are subconscious and even unconscious feelings. By consciousness we understand those feelings alone which are concentrated so as to be connected with the ego, i. e. the present centre of consciousness. We assume that even the spinal ganglions of the brainless frog are feeling if the skin is irritated, but this feeling can never become conscious, it can no more be telegraphed to the central station so as to become co-ordinated with other feelings which are registered in the brain. The objection may be raised, We do not know whether the ganglion is feeling; and I should answer, I call feeling anything that is of the same nature as the elements of which consciousness consists, and we have all reasons to assume that there is such an elementary psychical accompaniment of the ganglionic irritations, and that consciousness rises from many such elements through their co-ordinate combination in the brain. Isolated feelings are never conscious, and consciousness is a co-operative system of feeling. This distinction between consciousness and feeling is a mere matter of terminology. If we find another terminology more practical we are willing to surrender ours. Yet such a distinction between consciousness and feeling seems to be necessary for a proper description of the psychical facts. The assumption of subconscious states and even of unconscious feelings is a great help in explaining the phenomena of consciousness. But unless we are grossly mistaken, our disagreement is merely apparent, for Professor Münsterberg, rejecting the idea of a psychological explanation, believes in the parallelism of psychical and physical phenomena. "The physical acts" (he says on p. 125) "reducible to mechanical axioms can be explained through causation, the psychical acts follow one another without inner necessity. If we connect both, we are enabled to transfer the necessity-connection of the physical upon the psychical and offer thus an explanation where otherwise description only was possible." But in doing this, have we not supplemented those psychical elements which appear as conscious states by other psychical elements which have not entered into that combination which makes them actually conscious? It is an hypothetical addition for the sake of explanation, a *Hilfsconstruction* just as much as the supposition of the existence of atoms or electric currents or other physical phenomena which are not directly observed, but indirectly in their effects only.

Supplements are necessary for explanation wherever the immediate facts do not contain all the elements of a certain process. If an observable phenomenon has not its conditions in observable facts we hypothetically assume unobservable facts as its causes. But we may incidentally remark that description and explanation are not different in kind, but in degree. Explanation is an exhaustive description set forth in its greatest possible simplicity. An exhaustive description enumerates all the determinative factors of a process and it drops everything that is of no account, so that information is imparted with the greatest economy as well as completeness. An exhaustive description is a reliable guide to preascertain the outcome of a process, and reveals in this way the identity in the change, the continuity of the process and the conservation of matter and energy in their transformations, or, in other words, it reveals the necessity of the result. There is perhaps no natural science in which the processes can be exhaustively described without hypothetical supplements and so the science of psychology forms no exception to the general rule.

The aim of psychology in its wider sense will be "to separate all the contents of consciousness into their elements, to state their laws of combination, and to seek in an empirical way for the diverse elementary psychical contents, their correspondent physiological irritations, in order to explain in this way mediately from the coexistence and succession of physiological irritations the purely psychological laws of combinations which as such are unexplainable" (p. 127).

Our objection to this view resembles much some of the objections which Professor Münsterberg himself makes when speaking of the availability of the mathematical method so-called. He says: "Measuring and counting of psychological phenomena have been made repeatedly, directly as well as indirectly, and it has been proved that mathematics can be applied to psychology. . . . Nevertheless it would be a misuse of the word if we named these numerical descriptions an 'application of the mathematical method.' If an historian of literature counts the poems and dramas of authors, if he also calculates how long it took them to write their literary products, who would call his work a mathematical history of literature? Even astronomy would be no mathematical science if we counted only the stars in the sky." If the aim of psychological explanation were as Professor Münsterberg here asserts to be reached through the explanation of physiological states only, we should say, that the physiological method were alone admissible in psychology, a principle to which our author rightly objects. Psychical states sometimes demand a physiological explanation; and we cannot understand psychology without having a certain amount of physiological knowledge. Nevertheless, the explanation of psychical states and the necessity of certain connections must be understood mainly from the psychical elements themselves. Psychical elements, i. e. feelings, as has been explained on other occasions, have acquired and constantly do acquire meaning. This meaning which appears in sensation-symbols and thought-symbols and which is different in the different forms of feeling (correspondent to different forms

of nervous action), creates a new domain,—the domain of spirit,—and thus psychical states are changed into spiritual facts. Suppose for instance that a merchant receives his mail; he opens a letter containing some important news which sets at once all his nerves into irritation, makes him neglectful of all other things in order to attend with great haste to one special affair. How can we explain this instance, or any other spiritual act through a consideration of physiological conditions. Is it not the meaning alone which special sense-impressions convey that produces the extraordinary effects? The physiologist would as little be able to detect this meaning through an analysis of the sense-impressions, as an electrician would be to understand the import of a telegram when measuring the strength of the electric current in the telegraph wires. The combinations of the purely psychical states may after all not be quite unexplainable, while their physiological concomitants are in many cases insufficient to account for spiritual interconnections.

In discussing the methods of psychology Professor Münsterberg rejects the speculative and the mathematical methods; he claims a great importance (and we agree with him) for self-observation. But self-observation is no easy task; it requires a high degree of training. "He who does not understand botany cannot make observations of plant-life. The same things which call into play certain associations in the botanist are also seen by the layman, but they remain unobserved. Self-observation is in a similar way . . . not without its presuppositions; it is dependent upon a rich store of ready associations" (p. 164).

Psychological investigations under natural conditions are classified by Münsterberg according to their objects, as those of the normal man, the child, the savage, the insane, the animal, etc. In experimental psychology, psychopetal, psychofugal, and psychocentral processes are distinguished. For psycho-physiological investigations we have besides, (1) the immediate experiment in the laboratory, (2) the method of anatomy, (3) of comparative anatomy, (4) and of physiology. Professor Münsterberg concludes with an appeal to institute special professorships of psychology, which is at present a mere branch of philosophy. It takes all the energy of one man to keep abreast with the progress of psychological investigation. "No medical man, no lawyer, no theologian, or educator should enter into practical life without having passed an examination in psychology . . . the growing generation of children, the sick, the criminal, and the comfort-seeking souls of mankind have to suffer if teachers, physicians, judges, and preachers are ignoramuses in the matter of human soul-life. . . . But here also the gods have placed sweat before virtue."

KPS.

LA PHILOSOPHIE DU SIÈCLE. By *E. de Roberty*. Paris: Félix Alcan.

The author of the present work, which forms a volume of the Library of Contemporary Philosophy, is one of those disciples of the founder of French positivism who, while following in his footsteps to a certain point, do not hesitate to diverge

from the beaten track when they think their leader has gone astray in his philosophic quest. M. de Roberty speaks of Comte with reverence as his first guide and his best master, and he finds in the very contradictions of the Master the germ of his own conception of the general trend of philosophic development.

The fundamental thesis of the present work is that the three contemporaneous philosophic systems, those of Criticism, Positivism, and Evolutionism, are merely varieties of a single species, as strictly parallel manifestations of a common stock of beliefs and general hypotheses. The basic identity of the thought of this century is shown by the ever increasing convergence of the great leading ideas, as exhibited in the prevailing theories of knowledge, by the preponderance of relativism, and of agnosticism. It reveals itself, especially in the similar conceptions formed by the most varied systems, not only of the essential characters of philosophy, its method, and the ends it ought to pursue, but also of the scientific laws which govern its evolution. We cannot follow the author through his discussion of all these points and we must therefore restrict ourselves to the most salient features of his argument.

Modern philosophy is represented by three principal schools: Criticism which originated with Kant, Positivism founded by Comte, and Evolutionism introduced by Spencer. These three systems had a common ancestry, that of sensualism. The critical philosophy is the legitimate heir of sensuous idealism, and the positive philosophy the immediate descendant of sensuous materialism. The evolution philosophy is itself rooted in sensualism, but it is really a conciliator of the two great philosophies which preceded it, Criticism and Positivism. This conclusion, which appears to us just, is supported by various considerations to which reference here is not necessary. M. de Roberty bears testimony to the influence of the philosophy of Kant over the development of the evolutionist conception, which could be applied to society only by giving an apparent universality to the mechanical hypothesis. This was accomplished by Spencer, as it had been done to some extent by Comte. The popularity of the evolution philosophy is explained by the author as due to its admixture of agnosticism with a monism which captivates the masses "by the audacious assertion that it has raised all veils and resolved all enigmas." Kant, Comte, and Spencer have equally seized this characteristic trait of the genius of our century. They each treat, says M. de Roberty, of the most transcendent problems of metaphysics, and place them carefully under the cover of the experimental method. Let us add that they are each different expressions of that genius, which marks the progress of the mental evolution of mankind.

The second part of M. de Roberty's work deals in the first place with the conceptions of philosophy, its nature and its end, framed by the three great modern systems. The confusion generally made between philosophy and science is first pointed out, the evil of which arises from the fact that allowance is not made for the progress of scientific knowledge. The author is strongly inclined to favor the idea of the general equivalence of science and philosophy, in the sense that every

effect is identified with its cause. But as the effect is always modified with its cause, neither the content nor the general conception of philosophy can remain unchangeable. Philosophy becomes thus the co-ordination of the sciences in view of their general and abstract finality—by which is meant simply the last term of an evolution—a conception of the world.

In what do the conceptions of philosophy held by the criticist, the positivist, and the evolutionist, differ from that formulated by M. de Roberty? He affirms that they all entertain certain errors of method derived chiefly from ancient metaphysics. The prototype is found in Kant, who says that philosophy is a system of universal acquirements formed of abstract notions, and that it has for its aim the passage of our understanding from sensible to suprasensible knowledge. The latter is the *a priori*, the permanent and verifiable hypothesis, for each of them. It is the transcendental element which all modern philosophy has derived from the past, and which forms the bond of alliance between faith and knowledge. Of the three postulates of Spencer, the universal hypothesis is in the first, an Unknowable Force. The other two belong to psychology, proving that the English evolutionist, like Comte, confounds science with philosophy, which to him, as to his predecessors, is a simple theory of knowledge.

Philosophy is a method which conducts to a conception of the world. But, says M. de Roberty, modern philosophies fail in that they deal with hypotheses. Now, although hypothesis is the soul of the special sciences, for philosophy it must always be a purely mental recreation. To render valid the universal hypothesis constructed by philosophers, it would be necessary that the sum of the final truths of science should include the sum of the phenomena which constitute nature.

We cannot follow the author through his ingenious criticisms of Spencer's great synthetic formula, to which he devotes the twelfth chapter of the present work, and which he characterises as the perfect type of the universal unverifiable hypothesis. Nor can we do more than give a passing glance at his views of the psychology of the three modern systems of philosophy. He affirms that the metaphysical transformation by criticism of psychology into philosophy left hardly anything to the special science. To positivism is due the conception of psychology as forming an integral part of biology, which has led to the important psycho-physical experiments of the present day. But the biological analysis of the individual should be followed by social analysis, the study of mental manifestations in society, in connection with which should be created a special concrete science to embrace the higher psychology, as pointed out by the author in his work "La Sociologie." Science, art, and industry are a projection into the external world of the thinking, feeling, acting subject, and psychology ought also to be thus projected by fusion with biology, or with biology and sociology, which it is necessary to study if we would discover psychic laws.

In the chapter on the Supremacy of Science, the author affirms that the philosophy which will result from the progress of psychology and sociology will present

a striking contrast with all known metaphysical forms, but it will always remain a world-conception, and it will have to submit to the law of correlation which explains the character and destinies of its predecessor. Agnosticism, which invites men to bend before the *Deus ignotus* of all religions, marks the fatal termination of ancient anthropomorphism, influenced by a progressive knowledge, and thus appears as the final integration of all theology. It also represents, however, the condition of incognisance to which the opposite state will succeed when the cycle of abstract sciences is completed and a really scientific psychology formed. Then hypotheses as to universal causes will receive their psychological solution, and it will remain for philosophy only to confront and co-ordinate them with the general results of other sciences. Having arrived at this point M. de Roberty formulates the conclusion that Philosophy and Science are terms which connote two principle *species* in the vast *genus* designated by the single term *knowledge*. The most marked trait of future philosophy will be the distinction of these two species, as their confusion was the most general character of the philosophy of the past. Philosophy and science will then be perfectly identified, but the identity will be general and not specific. Thus philosophy will not be positive in the sense of Comte, it will never *completely* identify itself with science.

In his last chapter, entitled "The Intellectual Series," M. de Roberty continues his criticism of the views of Comte as to the law of the evolution of philosophy. He shows that, so far from this being the most general law of intellectual evolution, and therefore the supreme law of all social phenomena, philosophy is only one of three intermediate terms, the others being art and industry, by the aid of which the evolution of scientific ideas acts on the ensemble of the social evolution. The intellectual evolution is the direct consequence of the social fact, but the social evolution is subject to the laws of intellectual evolution, which embrace four great classes of conceptions, answering to the four well recognised groups of facts known as science, philosophy, art, and industry. We have here the same series of special evolutions as those supposed by Comte, with the important change, however, marked by the inversion of the first two members of the series. In this relation, the author affirms that Comte's law of the three states is false so far as concerns the evolution of the sciences, and is of very secondary importance as regards the evolution of philosophy and the two succeeding evolutions.

The author concludes his work with a criticism intended to show that the principal defects of Comte's system arise from the confusion previously insisted on in relation to the first terms of the intellectual series, science and philosophy. That confusion is exhibited in the statement that among the ancients philosophy was developed before science and art. M. de Roberty, moreover, declares Comte's theory that the industrial development is the point of departure of modern civilisation, leads to a complete subversion of the logical and historical. Instead of the useful or the proper being, as that theory would require, the foundation of the good and this, in its turn, the germ of the true, the true is the foundation of the beautiful,

and of the good and the useful. But the true is more complex than supposed by Comte. It possesses at least two aspects, science and philosophy, which may be really distinguished, although the line which separates them is yet undetermined.

We have given a summary of M. de Roberty's general argument, instead of referring to particular propositions which may be open to criticism, because his work appears to us a very valuable contribution towards the elucidation of the important question as to the position of philosophy in relation to science. We shall look with much interest for the appearance of the author's two further works which he announces as supplementary to the present one. That on Agnosticism is already in the press. The subject of the other work is Monism, which M. de Roberty characterises as "the chimerical pursuit which has essayed, through the ages, to fix the so-called unity of things, the extra or supralogical identity of phenomena." This hypothetical monism of philosophy is dealt with incidentally in the present work. The "supralogical identity of phenomena" is a different kind of monism from that of *The Monist*. Ω.

UEBER BEWEGUNGSEMPFINDUNGEN. Inaugural-Dissertation zur Erlangung der Doctorwürde vorgelegt der hohen philosophischen Facultät der Albert-Ludwigs-Universität zu Freiburg i. B. By *Edmund Burke Delabarre* of Massachusetts. Freiburg in Baden: Hch. Epstein, 1891.

Dr. Edmund Burke Delabarre introduces himself to the world of science with an excellent monograph on motion-sensations, based upon careful observations which were made in Professor Münsterberg's psychological laboratory at Freiburg i. B. The subject of the dissertation is of great importance and there is much confusion prevalent at present even among the most prominent authorities. It appears to us that Dr. Delabarre has adopted the right view and he certainly defends it with great ability. Professor Wundt rejects in his *Physiological Psychology* all the theory of the so-called "muscle-sense" and admits that there is some truth in the three explanations devised as an explanation of our consciousness of performed motions, which thus would be a complex of (1) pressure-sensations, (2) specific muscle-sensations, and (3) innervation-sensations. This third kind of sensations is of a very hypothetical nature. The term signifies that, when muscles are innervated we are supposed to have a direct sensation of the innervation in the central nerve-organs; and this view is objected to by Münsterberg, who says that "a brain irritation which is not accompanied with centripetal effects or central after-effects of former muscular activity has its physiological consequences but excites no conscious states." Thus, according to Dr. Delabarre, without the motion of the sense-organs, i. e. muscular activity, there is no consciousness; all consciousness derives its data from the periphery. Dr. Delabarre goes over the whole field of the literature of the subject and weighs all pros and cons. He finds that all cases are intelligible without the supposition of central innervation-sensations. He admits that the term muscle-sense is vague, but he believes that the term having been generally intro-

duced may be retained. He defines it as that complex of sensations which results from muscular activity.

The second part of the dissertation contains the reports of the experiments, describing the instruments used and the methods employed.

We are informed that Dr. Delabarre has been appointed to the chair of psychology in Brown University.

KPS.

LE NIHILISME SCIENTIFIQUE. I. Dialogue entre le Doctor Oudèn et L'Etudiant Tison Neveu. Rapporté par P. Van Bemmelen. Leide: E. J. Brill, 1891.

Dr. Oudèn's nephew thus summarises the scientific, or rather "philosophic" views of his uncle: "There is no God, but there is the world. In this world there are neither souls, nor mind, nor life; there is only matter and its elementary forces. Nevertheless these forces do not exist; there is only movement, the sole function of matter, which is inert. In its turn, matter has no reality; it is composed of geometrical points which are susceptible of movement. But as there is neither time nor space, there is no movement." Nothingness is thus reached, but beyond is illusion, the *maja* of the Hindoos, which explains all our conceptions of nature including that of our own being. This scientific *maja* is not the semblance of a real world, but that of a world which does not exist, so that illusion and nothingness are the same thing. From which it follows that there is no illusion and no mind to be deceived! Mr. Van Bemmelen's opuscle is an ingenious *jeu d'esprit*, evidently intended to exhibit a certain phase of speculation as a *reductio ad absurdum*.

Ω.

DIRITTO SOCIALE TENTATIVO IN BOZZA. Dell' Avv. Pietro Pellegrini. Borgea a Mozzano. 1891.

There is no denying the activity of the statesmen and scholars of modern Italy in the cause of radical, social reconstruction and, as remarked by a recent traveller in Italy, in the "building up again a Commonwealth, founded on high principles of right and equality." "Diritto Sociale," in Italian jurisprudence, of course, relates to municipal and positive law, in its social-economical and social-political aspects. But, in a country with the municipal and political traditions of Italy, this "Diritto Sociale," even in modern times, exhibits a tendency to crystallise into a kind of concrete, social religion. The Avvocato Signor Pietro Pellegrini, the learned author of this book, appears to feel deeply concerning the present condition of this branch of jurisprudence in Italy.

In his preface the author says, that during the present century legal science has not made any very substantial progress; that the revolution of the last century, while asserting the famous rights of man, forgot the rights of juridic persons, of corporations, and law became an *individualista*—or, individualiser. On the strength of his juridic personality man thereupon engaged in a struggle for his rights on the vast social field, but he found himself alone—an individual and nothing more. As

such, he could not form a juridic, social organism, but he merely sought to adapt himself to an actual, external juridic organisation, differing but slightly from old-time despotism. On this basis the State still continues to create municipal and positive laws, more or less adapts them to the facts of reality, arbitrarily creating juridic persons and administrative bodies, such as the *mandamenti, circondarii, provincie* of the modern Italian kingdom—all of which are only hybrid administrative *entia*, that do not in the least satisfy a number of local public needs; and therefore, there is no harmony between individual men and the juridic persons, between the public administrative *entia* and the State, and there is bloody war among the States themselves.

The ultimate cause of all this conflict is to be ascribed to the individualism of the law, in not recognising organic, juridic relations; and this, moreover, necessarily called forth the reaction of an exaggerated socialism. . . . Person has a much wider significance than individual; person cannot be isolated, individual, because, juridically, person implies an exchange of relations with others; hence, juridic persons ought to enjoy a greater legal authority than they actually enjoy in our modern jurisprudence. The *plasma sociale*, or the original social mould, is developed by degrees into a vital, practically real, organism, endowed with a physical body, that needs the material means of nutrition, in order to live, to preserve, and develop itself. These, however, do not exist; because nature furnishes only sufficient means to preserve man in a purely savage, animal condition. But, at least, there exist the sources, or fountain-heads, from which it is possible to derive the desired nutritive materials; on condition of molding or transforming those fountain-heads, and of assuming their efficacious, practical direction. In the individualised or individual system there takes place a struggle among the individuals for the possession of that nourishment, in which case, however, the sources themselves are appropriated rather than the nutritive materials they contain. Such is the exclusive nature of the social means of nutrition, present and future, through which a large number of individuals will be at the mercy of a few, while the notorious "rights of man," remain powerless. . . .

The rights emanating from the organic concept of personality, together with the physico-economical laws of the fountain-heads of social nourishment, spontaneously furnish the equitable distribution of the nutritive materials to each organic member, so that there is no monopolising of those natural fountain-heads, but a normal nutrition of all the organs, according to their needs, and their actual capacity as juridically displayed. . . .

Those fountain-heads, besides being limited, are scattered through space, because it is impossible to unite or concentrate them on any particular point of the globe. Hence this *plasma sociale* or social mold is distributed through space according to imperative laws, that result from the combined capacities of the respective juridic, that is, social persons, with the capacities of the respective sources of social nourishment—of different municipal organisations, of cities, townships, and

villages. All these are pre-eminently juridic and social persons, each one possessing its peculiar functions, that cannot be exercised by other persons. The present work contains a lengthy but valuable introduction in four chapters, discussing the general concept of law; and thereupon the book is divided into three parts, in which are explained the principles and development of positive law in its respectively civil-social, social-economical, and social-political aspects. This work, throughout, presents a number of equally important and novel points of view, through which the author's concept of an organic municipal and social law everywhere becomes the surest means of creating unity and harmony, not only within the general department of law, but also within the sphere of practical legislation. γλν.

AN OUTLINE OF LOCKE'S ETHICAL PHILOSOPHY. By *Mattoon Monroe Curtis*, M. A. Leipsic: Gustav Fock, 1890.

This excellent study was presented to the University of Leipsic as the Inaugural Dissertation for the degree of Doctor of Philosophy, and it is well deserving of publication, if for no other reason than the need of such a work. There appears to have been hitherto no complete account of Locke's System of Ethics, which does not even find a place in Mackintosh's "Dissertation on Ethical Philosophy." The author has not been able to discover any trace of the treatise on Ethics which Locke proposed to write, but his published works "abound in ethical observation and severally took their rise from ethical considerations," so that there is no deficiency of materials from which to ascertain his ideas on that subject.

Mr. Curtis very justly remarks that it is important to ascertain an author's views before criticising them, a truism which is not always acted on, as indeed was the case with Locke's own critics. He does not, however, profess to criticise but, as the title of his work shows, to give an outline of Locke's Ethical Philosophy. In his Preface he states that his author adopted the Stoic division of Philosophy into Physics, Ethics, and Logic. The object of Ethics, is described by Locke, in his noted "Essay," as the seeking out of those rules and measures of human actions, which lead to happiness, and the means to practice them. The end of this, is not bare speculation, and the knowledge of truth; but *right*, and a conduct suitable to it. In the application of its principles Locke may be said to have gone further than any of his predecessors and of most of his successors. As pointed out by Mr. Curtis, he maintains that the institutions of government, religion, and education are, in essence, ethical and that all are parts of a system which must be based upon, and be in harmony with, the fundamental physiological and psychological principles of human nature. This follows from Locke's principle that the Individual, and not the Family, is the real social unit. Man is a rational, social, religious, and political being, and, therefore, "in the individual is contained, potentially, all institutionalism."

It must be noticed, however, that to Locke the moral dynamic in human society is the concept of God. He regards this idea "as a natural, formal, necessary

and transcendental principle at the root of human nature and institutions, and consistently declares that the denial of it dissolves all," as it alone gives a sufficient explanation and sanction to the principles of morality. This brings us to the very foundation of ethics. All depends, however, on our conception of God. Locke maintained that duty "cannot be understood without a law, nor a law be known or supposed without a law giver, or without reward or punishment." His conception of God, therefore, was that of a lawgiver, and he believed that the existence of God could be demonstrated not only by teleological argument, but also by psychological proof drawn from the being and nature of man. Locke was so thoroughly convinced of the dependence of morality on the existence of God, that, notwithstanding his general liberality of thought, he excluded atheists from toleration. He writes: "Promises and Covenants, and Oaths, which are the bonds of human society, can have no hold upon an Atheist."

It would be a mistake to suppose that, because Locke believed morality to be founded in our conception of God, he considered the moral law referable simply to the divine will, and therefore to be arbitrary and changeable. So far from this, he regarded the moral law as eternal and immutable, and affirmed that its cardinal principles could be discovered and laid hold of by the light of nature. As says Pfleiderer, when speaking of Locke and Wolff, "Locke also considers a supernatural revelation to be possible, and to have actually taken place in Christianity, but he insists as strongly as Wolff does, and even more logically, that this revelation must not in any way contradict the natural revelation given us by God in our reason." Locke expressly declares, that the reason *is* natural revelation, while revelation is natural reason enlarged. The latter he regarded as necessary because, although reason is sufficient for the virtuous, penalties must be relied upon for influencing the multitude; and in revelation the doctrine of immortality with future rewards and punishments is made known. Whether this revelation is true or false, the fear of future punishment has undoubtedly had a restraining influence over the vicious. But reason would not be sufficient for the virtuous without an inclination natural or acquired, to virtue. It is a question of disposition, and this will be virtuous or vicious, according to the conditions under which the individual has come into being and been "educated," in the fullest sense of this term. Reason forms part of these conditions which, so far as they are not purely objective, are dependent on or referable to human nature; as, indeed, must be the supposed revelation of enlarged natural reason.

In relation to the ethical life, Locke declares that happiness is the only idea which reason takes up out of the sphere of pleasure and pain, and yet that if we aim directly at happiness, we shall miss it. What then has to be done is to seek out "the rules and measures of human actions which lead to happiness." This is the office of ethics, the end of which is virtue, and thus happiness and virtue are one. With Locke moral actions are only those that depend "upon the choice of an understanding and free agent." The agent here intended is, as pointed out by Mr.

Curtis, the man, and not the will. Locke says that the proper question in connection with freedom, is not "whether the will be free, but whether the man be free." The will is determined by the mind, and liberty is "a power to act, or not to act, according as the mind directs." In his "Thoughts concerning Education" Locke affirms that "the result of our judgment, upon examination, is what ultimately determines the man, who could not be free, if his will were determined by anything but his own desire, guided by his own judgment." The position of Locke is, says the author, that of Plato and Kant: Reason is given as the governor of the will, by its sway to constitute it good. Thence we may rightly conclude, that those who are not governed by reason have not true freedom.

We have not space to consider the views entertained by Locke on Institutional Ethics, beyond referring to his doctrine that property rights are given only by labor, and not by occupation, and that labor is the source of all values. The latter doctrine cannot now be accepted as sound, whatever may be said as to the former, but Locke deservedly holds a high place as a political economist. He seems indeed to have been a kind of universal genius. Mr. Curtis refers to the remark made of him "that no philosopher since Aristotle has made and recorded so many valuable observations, or given so great a stimulus to human thought." Any fresh light that can be thrown on the opinions entertained by so profound a thinker, especially on the important question of ethics, is of value and hence we welcome the present work as an acceptable addition to philosophic literature. Ω.

N. B.—Owing to lack of space, reviews of a number of new works have been crowded out of the present number of *The Monist*; among which the following will appear in No. 3: *Die Entwicklung des Causalproblems in der Philosophie seit Kant*, by Dr. Edmund Koenig; *Spinoza's Erkenntnislehre in ihrer Beziehung zur modernen Naturwissenschaft und Philosophie*, by Dr. Martin Berendt and Dr. Julius Friedländer; *Leitfaden der physiologischen Psychologie*, by Dr. Th. Ziehen; *Handbook of Psychology*, by J. M. Baldwin; *An Essay on Reasoning*, by Edward T. Dixon; *Das Dasein als Lust, Leid und Liebe*, by Hübbe-Schleiden; *Die Bedeutung der theologischen Vorstellungen für die Ethik*, by Wilhelm Paszkowski; and *Einleitung in das Alte Testament*, by Prof. C. H. Cornill.

PERIODICALS.

VOPROSUI FILOSOFII I PSICHOLOGII.* Vol. II. No. 6.

September, 1891.

CONTENTS:

- POSITIVE PHILOSOPHY AND THE UNITY OF SCIENCE. By *B. Tchitcherin*.
PHILOSOPHY OF THE CHRISTIAN THEOCRACY IN THE FIFTH CENTURY. The Cosmic Views of St. Augustine in his Genesis. By *Prince E. Trubetskoï*.
ETHICS OF LIFE AND OF THE FREE IDEAL (conclusion). By *K. N. Ventzel*.
OPINIONS CONCERNING L. N. TOLSTOÏ. By *N. Strachoff*.
FROM THE PHILOSOPHY OF HISTORY. By *Vladimir Solovieff*.
SPECIAL PART: (1) Fundamental Moments in the Evolution of the New Philosophy. Metaphysical Philosophy: Descartes and Occasionalists. By *N. Grote*. (2) Measurableness of the Simplest Mental Acts. By *E. Tchelpanoff*.
CRITICISM AND BIBLIOGRAPHY. Review of Philosophical Periodicals. Book Reviews.
APPENDIX: 1) Recent Publications. 2) Transactions of the Moscow Psychological Society.

Positive Philosophy and the Unity of Science. This article is made up of extracts from a lengthy competitory dissertation presented by the author to the Moscow Psychological Society. The writer points out the fallacy of the "fundamental law" of the Comtist philosophy—the supposed gradual evolution of human thought through three successive phases,—the theological, metaphysical, and positive stage of development. The writer contends, that the so-called "positive stage," as conceived by Comte, is really neither positive, nor even scientific, if we examine its main foundations. As all the world knows, Comte was not satisfied with the results of the particular sciences, but wished to effect their comprehensive unity. The writer lays stress on the fact that Comte failed to perceive the inward contradiction of his whole system. His followers, in order to overcome this difficulty, were compelled to advance still another step. Despite the teaching of Comte, they recognised in mathematics the whole of a science that derived its principles from experience. This is shown by Littré in his criticism of the system of Comte (*Aug. Comte et la Philosophie positive*, page 567), where Littré refers himself to the analysis of Stuart Mill in his Logic. The author, in order to reach a definite and

* *Questions of Philosophy and Psychology.* In the Russian language.

satisfactory solution of this important problem, in his next, concluding article, will investigate the nature and alleged solidity of the mathematical principle.

The Philosophy of the Christian Clergy in the Fifth Century. In analysing the whole literary activity of St. Augustine, we observe, in the evolution of his doctrine, three stages, that closely correspond to his own personal struggle against the three heresies of his time—Manicheism, Donatism, and Pelagianism. Yet all of these three stages are characterised by one and the same principle—the ideal unity of the Christian churches. This ideal aspiration reveals itself as a kind of constructive principle of the universe; as the supreme principle of a social organisation of humanity, as the substance and contents of subjective, human freedom. The Bishop of Hippona,—after thus having developed the several aspects of his doctrine against the heresies,—sums up, and concentrates his teaching, in its widest bearings, against the heathen. Here this Christian ideal attains its fullest and final expression, and is formulated as a *Civitas Dei*, as the unity of a universal, divine Sovereignty.

Ethics of Life and of the Free Ideal. In concluding his exhaustive reflections on the subject of Guyau's system of ethics, in which the writer frequently has occasion to cite the critical parallel views of A. Fouillé and of other English and Russian philosophers, Mr. Ventzel remarks, that his aim has been, not only to introduce M. Guyau's system of ethics to his Russian readers, but also and mainly to show the relations of this system of ethics to moral obligation. The writer wishes to say in conclusion a few words about Guyau's relation to ethical sanction. Guyau rejected any moral sanction, in the strict sense of the word, that was distinguished or detached from social sanctions, as such. In this sense he conceives moral sanction and moral obligation in his *Ethics of Life*, in his *Esquisse d'une Morale*. If life, of itself, creates an obligation to work, simply, on the strength of our capacity to work, in such case life also will create its own ethical sanction. Even when generously giving itself away, life will without fail, again and again, find itself. No matter how it be cut short, life will preserve a vivid consciousness of its fulness and significance and will reappear in some other place and under other conditions; for, truly, nothing in this world lives and works in vain.

Opinions Concerning Leon N. Tolstói. Mr. Strachoff's psychological study would doubtless possess an additional interest to western readers if the writer had really given an exclusively Russian estimate of Tolstói's character and intellectual activity. In this respect, however, we must not expect to find any very marked deviation from the well-known current views of the reading public of other nations. "The main cause," Mr. Strachoff observes, "why people are incensed against Tolstói, is to be found in the fact, that, of all men, Tolstói has most widely deviated from universally received ethical notions, and that he antagonises his century, even in certain delicate problems, that will always be the dearest to mankind. You cannot help feeling this, when you listen to the clamour, reproach, and vituperation, that have been raised against him throughout the civilised world. For the rest, it seems rather odd, that, at the close of the nineteenth century, there should have risen such a number of deadly foes against an inoffensive writer and thinker like Tolstói; and yet, long ago, we had been accustomed to the intemperate utterances of a host of enraged freethinkers, whom we have endured with patience and meekness. Why, accordingly, have we all of a sudden lost our patient tolerance, and why are we almost ready to start a systematic persecution against the thoughts and words of a book like the *Yasnaya Polyana* (Clear Field)? . . . It must be admitted, that there is a certain originality in his writings. Every line possesses a freshness and novelty that are entirely his own; and yet his language is tame, and the subjects even more

common than in other writers. He frequently describes the birth and death of very plain people. He tells us how these same people amuse themselves, eat, drink, and dance on feast-days, cut the hay, go to church, to confession, and so forth. Occasionally he tells how a jealous husband kills his wife,—a fact, that has been told in so many other literatures. But in anything he relates, he has the art of throwing a strong, clear light upon his subject, so that it seems to us, as if those time-worn scenes were seen and heard for the first time. In this consists the real originality of Tolstoi's art. And he is the same in his ethical teachings. They strike us by their directness, vigor, sincerity; and for this very reason they powerfully arouse our love and our yearning for those deep, spiritual cravings that invite man to lead a higher life—"to live a god-like life." Here also, at times, it appears to us, that we hear about those lofty aspirations for the first time; but when you pay close attention, you will find that his doctrine is really based on the ethics of the past, and you meet with traits of that self-same Christian doctrine with which you have been familiar from early childhood.

From the Philosophy of History. Mr. Solovieff, this time also, has chosen a title that scarcely conveys a definite idea of the aim and contents of his article, which describes the specific relations of the Christian idea to the historical evolution and political ideal of the nations of antiquity. (Moscow, 1891) γνλν.

MIND. October, 1891. No. LXIV.

CONTENTS:

BELIEF. By G. F. Stout.

THE PHYSICAL BASIS OF PLEASURE AND PAIN. (II.) By H. R. Marshall.

THE FESTAL ORIGIN OF HUMAN SPEECH. By J. Donovan.

INDUCTION AND DEDUCTION. By L. T. Hobhouse.

DISCUSSION: (1) Dr. Münsterberg and Experimental Psychology. By E. B. Titchener. (2) On the Origin of Music. By H. Spencer.

VALEDICTORY.

Under "Belief" Mr. Stout includes every mode and degree of assent or dissent. To disbelieve a proposition is to believe its contradictory. Doubt is belief in a disjunctive judgment. In a former article he dealt with the "Genesis of the Cognition of Physical Reality." He now treats of the various kinds of real existence; as follows. *The Real in Sensation.* The real as immediately apprehended in sensation must not be confounded with the percipient mind. Sensation as such is real in so far as it limits and controls the movement of attention, by restricting the range of subjective selection. *The Real in Judgments of Comparison.* In and through the peculiar movement of attention in endeavoring to keep it fixed on *A* in the very act of fixing it on *B*, the points of agreement and difference between *A* and *B* gradually emerge into clear consciousness. *Objective Attributes of Presentation.* Dr. Pikler's theory of the psychology of Objective Existence fails to distinguish between the phenomena which are merely observed by voluntary attention and those which are actually produced by it. The act of introspection modifies more or less the mental processes which it examines. Their pre-existing strength and mode of operation can be ascertained only by elimination of the peculiar reinforcement or enfeeblement which they acquire by emergence into distinct consciousness. *The Objectivity of Space and Spatial Relations.* Although we can produce change of place by moving our bodies, according to our will, this freedom of selective selection has rigid limits imposed on it by the very nature of space. This control im-

posed on our freedom by the nature of the object constitutes its objectivity. The constant possibility of transition from one position to another is apprehended as inherent in the very nature of space independently of our will. Whenever I distinctly attend to the nature of a spatial limit, I must of necessity admit that space is boundless. What has been said about the objectivity of space in general applies *mutatis mutandis* to the objectivity of space-relations as treated by the geometrician. The psychological conditions of my subjective certitude lie ultimately in the impassable barriers, arising from the very nature of space, which confine the freedom of my constructive movement. *Reality in the Association of Ideas.* Association is a cause of belief. If certain contents of consciousness have once been copresented in a certain relation to each other, the reproduction of the one tends to bring about the reproduction of the other in the same relation in which they were originally copresented. A comparatively feeble association may command belief merely from the absence of counter-associations. This is the basis of Bain's doctrine of primitive credulity. *Subconscious Conditions of Belief.* The presentations which successively emerge into the forms of consciousness are only fragmentary portions of the total mental system. Many, if not most, of our beliefs depend on the operation of subconscious elements which, in massive combination, co-operate to support a certain connection of ideas which appears in consciousness as an object of attention. But such massive support may arise from the connexion of the belief with practical interests or æsthetic enjoyments, or with some powerful organic sensation. *Apperception and Belief.* Ideal combinations may be separable or inseparable according as this or that apperceptive system happens to be predominant. This is best seen in its pathological exaggeration in the case of suggestible patients. Under normal conditions the necessary alternation of different apperceptive masses produces a corresponding variation in the conditions of belief. *The Real in the Products of Constructive Imagination.* The work of imagination either imposes an illusion on the mind, or it does not. In both cases there is a certain reference to reality. Illusion is a temporary and often more or less imperfect belief in the product of constructive imagination; a belief which can be indirectly produced or dissipated at will. *The Real as Physical Resistance.* In the experience of the irregular interruption of otherwise continuous series of muscular sensation, which, apart from this restriction, are producible at will, we apprehend real existence. The reality, however together with that of sensation as such, being communicated to the interpretations which we are constrained to put both upon sensations and their order, gives rise by a very complex process to the presentation of a physical world. *Conclusion.* The law of conflict is the psychological counterpart of the logical law of contradiction.

In the present paper Mr. Marshall examines in detail his thesis that Pleasure and Pain are determined by the relations between the amount of activity in, and the nutritive conditions of, the organ which determines the conscious content (*Mind* No. 63). He states the psychological conditions for Pleasure to be: "A content which appears normally at regular intervals will tend to be indifferent. If it appear with hypernormal intensity or frequency suddenly in the course of the normal regularity, it will for a relatively short time appear as pleasurable, but this pleasurableness will soon fall away into indifference. The psychological condition of Pain is said to be: "If a content which has already often appeared in consciousness appear with unusual frequency or exceptional intensity, it will ordinarily be accompanied at first by pleasure, which usually will wane until the content appears indifferent. If the hypernormal stimulus continue (except as after described) the

content will become painful, and this pain will increase in amount, and having reached a maximum will decrease gradually until it disappears, but in general with it will also gradually disappear the content itself, not to reappear in consciousness for a considerable time, if ever. In some cases, however, if the content be not over intense, we may look for a gradual decrease of the pain felt at the beginning until a condition of indifference is reached." Time is an essential factor in the process of organic repair. For each organ there will be a certain time after action has ceased at which recurrent activity will be most effective. Here we have the physical basis of the gratifications obtained through rhythms. There is also a relation of rhythm to pain. The throbbing of acute pain, so far as it is not directly traceable to *pressures* of blood-supply, is probably indirectly traceable to the *rhythm* of blood-supply. Turning to Psychology proper, the laws of Pleasure-Pain may be stated in terms of Attention. Pleasure, as involving the use of stored force, implies a continuance of activity in the organ of pleasurable content, and therefore a tendency to continuance of Attention upon that content. Pain, on the other hand, implies a tendency to cessation of activity in the organ of the painful content, and therefore the disappearance of the content. The notion that pleasure is mere absence of pain is denied by this theory, which accounts for the connexion, in a broad way, between Pleasure and Pain and activities respectively advantageous and disadvantageous. In relation to Ethics this theory teaches that the *act* of will, *per se*, is pleasurable as the outcome of the conditions of opposition which are anterior to the will-act. Further, action in the direction of the greatest desire is the most pleasant action. But this does not show that the effect of habit may not be such as to lead to action against the strongest desire and away from the greatest pleasure. Further, the object of desire, whilst it may be, is not necessarily the attainment of pleasure.

A scrutiny of the psychological aspect of musical pleasure, says Mr. Donovan, will lead to the conviction that its origin required simpler psychological machinery than the origin of speech, which was possible only through the aid of that machinery. The ear is superior to the eye in respect of their relative contributions toward making up our mental life and activity. The superiority of the ear rests on its functional passivity. This allowed auditory impressions to force themselves into consciousness in season and out of season. The facts of history and ethnology which may be given a new aspect when regarded in the light of the analysis of music cover a very wide field, beginning with the first and rudest vestiges of communal sympathy and tribal glorification, and extending up to the national song or epic. It is peculiar to man to give expression to communal interest in a way which has nothing to do with life-caring instincts. That interest finds its first and rudest expression in bodily play-excitement: (1) bodily play-movements in imitation of actions, (2) rhythmic beating, (3) some approach to song, and (4) some degree of communal interest, display themselves as the most constant elements of all festal celebrations. If we start from the generally-accepted explanations of play-movements in animals, and grasp the ultimate reason why play-excitement became infused with the communal spirit, there will be no difficulty in tracing evidence of this spirit even where they are most hidden by accompanying habits. Success in a common enterprise tends to preserve it. The natural modes of expression of the communal elation follow, i. e. the bodily play-movements in imitation of the successful actions and the rhythmic beating. These movements give to consciousness preservative elements of sensation. Every step of tonal development was made in order to prove the effectiveness of the elements of sensation which could preserve the content of consciousness springing out of play-excitement and communal elation.

The attention-drawing power a musical tone possessed was enhanced by the conditions of its production, which ensured repetition in a persistent temporal succession. Animals' excited cries were both before and after the stimulating rhythmic beating—produced tones. The same excitement which impelled to these cries also impelled to rhythmic beating, and thus produced a persistent auditory model for the cries. The philologist says that roots are elements of words which analysis can reduce no further. The psychologist can trace them back to the musical tones which became reproductive agents of the vague presentative elements of actions as they had been repeatedly held together in consciousness by the psychological machinery of nascent musical pleasure.

In a previous article (*Mind*, No. 62) Mr. Hobhouse aimed at proving that all reasoning involved generalisation from observed facts, and that all such generalisation could be shown to proceed on a definite principle. There are two main ways in which Induction and Deduction may be distinguished. First we may distinguish the assertion of a universal from its application. The application of a universal to a particular case is represented by the syllogism in which the major is a general judgment and the minor a particular judgment of perception. When two judgments are compared they are found to be (1) Tautologous—the same assertion of the same fact. (2) Different statements of the same fact. (3) Assertions of different facts. A judgment expresses a relation between two terms, and hence two judgments may be said to assert the same fact when they assert the same relation between the same terms. But if either of the terms or the relation differs, then they assert different facts. Generalisation involves a universal principle connecting different facts. Syllogism does not. Syllogism appears as simply the opposite side of generalisation. In the latter we assert a universal for the first time, in the former we apply a universal already asserted. But in both we are dealing with the same relation of universal and particular. Whether we assert or apply our universal, the same ultimate logical fact, expressed in the axiom of Induction, is at the bottom of the process. But a different distinction may be drawn between Induction and Deduction. The whole process of bringing particular facts under universals by observation of similar particulars may be called Induction, while the combination of several universals in a chain of reasoning is called Deduction. In the first, Generalisation, we assert a universal on the ground of a particular, or a particular on the ground of a similar particular. In the second, Construction, we assert a relation between two universals on the ground of the relation of each to one or more intermediate relations. Construction involves generalisation at every step, and is a true reasoning process. The nature of the generalisation may be shown by the typical Deductive axiom. If, where two terms are in any way related to a third, a relation between the two is observed, then when any other two terms are similarly related to any third, the relation between these two will be similar to that observed between the first two. The simplest construction on which others rest is that of two relations to the same type, and this axiom applies to relations so understood. The axioms postulated by Reasoning lay down the conditions under which facts not presented may be known to exist, and they are thus distinguished from those principles called the "Laws of Thought."

Mr. Titchener severely criticises Dr. Münsterberg's experimental psychology, pointing out various errors, and concludes that "whether the theories of the *Beiträge* stand or fall, their experimental foundation has very little positive worth."

In reply to the criticisms in *Mind*, No. 63, Mr. H. Spencer points out that Dr. Wallaschek has overlooked a passage in which the former recognises rhythm as an

essential component of music. He does not coincide with Dr. Wallaschek's view, however, since it regards music as acquiring its essential character by a trait which it has in common with other things, instead of by a trait which it has apart from other things. It is from the emotional element of speech that music is evolved—not from its intellectual element.

After referring to the fact that harmony, as ordinarily understood and as spoken of by him, is concerned with the fundamental tones and ignores the over-tones, Mr. Spencer states that he cannot accept Prof. Cattell's view that harmony has been developed from melody. To establish the evolution of the one from the other, there must be found some identifiable transitions between the combinations of tones constituting *timbre*, which do not constitute harmony to our perception, and those combinations of tones which do constitute harmony to our perception.

In his Valedictory on retiring from the Editorship of *Mind*, Professor Robertson refers to the establishment of the *Review* in 1876, on the initiative of Professor Bain, by whom it has since been sustained, and he mentions that most of the experimental research has been contributed by the American hands "that have been or are now organising psychological laboratories over all the breadth of their own land." (London: Williams and Norgate.)

INTERNATIONAL JOURNAL OF ETHICS. October, 1891.

Vol. II. No. 1.

CONTENTS:

THE UNITY OF THE ETHICS OF ANCIENT GREECE. By Prof. *Leopold Schmidt*.

THE PROBLEM OF UNSECTARIAN MORAL INSTRUCTION. By *Felix Adler*, Ph. D.

THE THEORY OF PUNISHMENT. By Rev. *Hastings Rashdall*.

AN INTERPRETATION OF THE SOCIAL MOVEMENTS OF OUR TIME. By Prof. *Henry C. Adams*.

THE PREVENTION OF CRIME. By Dr. *Ferdinand Tönnies*.

THE ETHICAL TEACHING OF SOPHOKLES. By Prof. *Arthur Fairbanks*.

THE RIGHT OF PRIVATE PROPERTY IN LAND. By Prof. *J. Platter*.

DISCUSSIONS.

Prof. Schmidt's article is a reply to a criticism of his work on the ethics of the ancient Greeks which had appeared in the *International Journal of Ethics*.

Dr. Adler's article is the introductory lecture of his course on Moral Instruction before the School of Applied Ethics at Plymouth. He refers first to the difficulty in the way of combining moral and religious instruction in the public schools arising from the difference in religious belief of the tax payers, and to the devices suggested to circumvent the difficulty. The first of these devices is that Catholics, Dissenters, and Jews, shall formulate a common platform of belief. There are two obvious objections to this proposal. It would leave out of account the party of the agnostics and be a gross injustice to them, and it would never content the really religious minds of any denomination. It would be acceptable only to the comparatively small class of so-called rationalists or theists pure and simple, and they have no right under the specious plea of reconciling the various creeds, in effect, to force their own creed upon the rest of the community. The second device is that religious and moral instruction combined shall be given in the public schools by persons of the several denominations. The high authority of Germany is invoked in favor of that system but Dr. Adler states that the example of Germany cannot be

quoted as a precedent owing to the relation between the state and the schools in that country. The system, moreover is not a happy one as, agreeably to Professor Smith's propositions that scientific instruction must be unsectarian and religious instruction must be sectarian, the latter ought to have no place in state schools, at least in a country where the separation of church and state is complete. To the third arrangement proposed, that each sect should build its own schools, and draw upon the fund supplied by taxation according to the number of children which it educates, there are two objections. Owing to the power of sects and their influence, direct and indirect, the rules and regulations prescribed by the state for the schools to conform to would not be enforced. And secondly, the purpose for which the public school exists would be defeated, as the sectarian schools tend to prevent the growth of that national unit which it is the very business of the public school to create and foster. The correct answer to the question as to the way in which to impart moral instruction so as to satisfy all parties will be the solution of the problem of unsectarian moral education. The answer is: It is the business of the moral instructor in the school to deliver to his pupil the subject matter of morality, but not to deal with the sanctions of it; to give his pupils a clear understanding of what is right and what is wrong, but not to enter into the question why the right should be done and the wrong avoided. The conscience can be enlightened, strengthened, and always without once raising the question why. Professor Adler, it appears to us, overlooks the intimate connection between the two questions of what is wrong, and why it is wrong. With the "why," which is the moral sanction so-called, he excludes the criterion of right and wrong and confines himself to conventional morality. Professor Adler proposes, that the material for the moral lessons should be "the stock of moral truths accepted by all good men." This would be a very simple solution of the ethical problem. Mankind need no longer remain in doubt as to what good and bad is. We have only to accept the propositions of "all good men." But where is the judge that shall decide who are to be considered as good men? Either Professor Adler considers his own views of moral goodness as authoritative and ultimate or his reasoning moves in a vicious circle.

Professor Tönnies and the Rev. Hastings Rashdall discuss punishment as a preventive of crime. Professor Adams finds that the genius of invention established the factory system replacing the old domestic system of industry. The change of a society based upon tools into a society based upon machinery means that the worker has lost control over the conditions of labor which he now tries to regain. Arthur Fairbanks says that according to the ethics of Sophokles, conscience was sense of conformity to an æsthetic ideal. J. Platter of Zürich rejects Henry George's theory as "nonsense." (Philadelphia: *International Journal of Ethics*, 1602 Chestnut Street.)

OK.

RIVISTA ITALIANA DI FILOSOFIA. September and October, 1891.

CONTENTS:

L'IMMAGINAZIONE NELLE SUE RELAZIONI NORMALI E MORBOSE COLLA SENSIBILITÀ.
By *L. Ambrosi*.

L'ORIGINE INDIANA DEL PITAGORISMO SECONDO L. VON SCHRÖDER. By *P. D'Ercole*.
LUIGI VIVES, PEDAGOGISTA DEL RINASCIMENTO. By *A. Piazzi*.

LA FILOSOFIA DI EMPEDOCLE. By *S. Ferrari*.

Imagination in its normal and diseased relations to sensibility. The writer calls our attention to the endless variety of different and apparently contradictory things

that are usually attributed to the faculty of imagination. To some this faculty of the human mind is the main cause of human errors, and with Montaigne they call it "la folle du logis"; but to others, imagination plays a rather important part in the discovery of great scientific theories. All unanimously admit, that imagination lends fuel to the flames of all kinds of evil passions; but on the other hand it cannot be denied, that imagination sustains the will in every work of great stress, or great sacrifice, by the vivid representation of an expected final success. All human votaries and possessors of this fleeting, inconstant mental faculty are by turns "happy, unhappy, sane, sick, wealthy or poor; it makes us believe, doubt, or deny reason; it makes fools and sages." (Pascal, *Pensées*, Art. 3, § 3). Yet how can the psychologist reconcile all this; how can he find the different circumstances, through which one and the same cause produces such an endless variety and discrepancy of facts? Several psychologists, who have tried to follow the flights of imagination throughout all its different manifestations by the sole aid of style and language, have been poets rather than true philosophers. Such was Delille in his poem *L'Imagination*; and such was even Professor Mantegazza himself, in that chapter of his *Physiology of Pleasure*, which he has dedicated to the "Gioie della fantasia," where he describes this faculty with far more enthusiasm than scientific precision. Bonstetten, in his *Recherches sur la nature et lois de l'imagination*, Genève, 1807, is supposed to have been the first to give a minute and exclusively psychological analysis of imagination; but his investigations seem to prove, that a delicate subject of this kind, like certain volatile essences, evaporates at the moment we wish to analyse it, and cannot be defined by any strict scientific formulas and classifications. And yet, if we really wish to study the psychology of imagination, we must not be frightened by these difficulties, or regard them as insurmountable. We may not be able to reduce all these varied phenomena to very definite and limited categories, but it does not follow from this, that we have only to make a simple, empirical registration of these phenomena. As Michaut observes (*L'Imagination*, Introduction): "Wherever we find a general element, there also we shall find room for science." Despite the inconstancy of the phenomena, it remains true, that also in the facts of imagination there is something constant and regular; that they are subject to laws, which might be probably severed from the phenomena, and be reduced to a certain unity and uniformity, without forgetting, at the same time, that this fleeting and delicate subject is not always reducible to absolutely strict classification.

How are we, accordingly, to obtain that harmony and unity of view, that will unite and group all those diversified manifestations? Mind cannot be conceived as a collection of different states, but we have to assume, that within the Psyche there is something substantial; there is unity, constancy in its energy; and that this side of its being is also the principle of its transitory actions. We recognise therefore the existence of two distinct sources of spiritual energy, that will better make us understand the diversity of its products: on the one side, the soul itself, with the formal laws of its simple being, and, on the other side, the power or force of its sensible representations,—of its reactions. This distinction, applied to the present problem, will on the one hand cause us to consider images as the products of an activity of an inferior order, called psyche soul, but we shall behold on the other, that same soul, when it has freed itself from the tyranny of the senses, itself becoming properly what is called mind, its emancipation rising to the higher function of arranging and organising the images produced by the aid of the senses. Hence follows, that the relations of either conflict or harmony which these products of the soul have among each other, and to mind proper, will serve as a criterion of a clas-

sification, in which we have to take note: (1) of the reciprocal action between sensations and images; (2) of that between images and images; (in both of which instances the power of the products possesses an advantage over the power of mind;) and (3) of the action of mind upon images. By this road it will be possible to follow all the phases of the evolution of mind from the moment when overcome by obstinate images it is reduced to a life of disorder, incoherency, or, as it were, to death of mind, until the moment when in its own turn mind takes hold of the numerous images by which it is besieged, and by subjecting them to its own laws—to laws of unity and harmony—it creates out of that disorderly chaos of images the wonderful synthesis of science and works of art. From that instant we behold mind rise through a series of intermediate stages, from abject servitude to the loftiest heights of freedom, from a state of humiliating impotency to an unhampered display of its true, inward activity,—from folly to genius. In other words, it is chiefly this psychic activity, in all its different stages of development and power, that must be our guiding criterion in the study of the phases and phenomena of imagination.

The writer, thereupon, seeks to explain the nature of this psychic activity in its application to images. He briefly investigates the origin of images, their immediate derivation from the sensations, and their intimate reciprocal connection, by virtue of which the one cannot be produced without the other; and whence there arise many different relations, that not only explain, but even enable us to classify a large number of facts relating to this mental faculty. The writer concludes with some general remarks on the diseases of imagination.

The Hindu Origin of Pythagorism according to L. von Schroeder. This article was suggested by Dr. L. v. Schroeder's monograph: *Pythagoras und die Inder. Eine Untersuchung über die Herkunft und Abstammung der Pythagorischen Lehren.* The discussion about the local origin of Pythagorism began with the ancients themselves, is being continued in our own time, and, from the nature of the subject itself, bids fair to be protracted for an indefinite period still. In recent times this arduous problem has invaded the domain of comparative ethnology, comparative religion, philology, in brief, of all the historical sciences, receiving, doubtless, striking and copious illustrations from all these, yet at the risk of almost losing sight of itself. In Pythagorism, as in certain other products of the human mind, it is difficult to discriminate with absolute historical certainty between "mine" and "thine." The real solution of the problem may perhaps be found in the original unity of the evolution of the Indo-European mind. The writer, however, views the problem simply as one of comparative religion and the history of philosophy. The ancients advocated the Italic, or Tyrrhenian origin of the Pythagorean system, and among modern Italians, Vico and Gioberti have done the same. The Chinese origin was defended by Gladisch. The third, the Egyptian origin, also dates from antiquity, and in modern times has been ardently defended by Roth. The fourth, the supposed Hellenic origin, has had the greatest number of followers, and has been ably championed by Dr. Edw. Zeller in his work, *Die Philosophie der Griechen.* As regards the last, the alleged Hindu origin, this was suggested of course by the numerous striking analogies found between Hindu and Pythagorean doctrine. Still, all that has been said on the subject by Schroeder, Max Müller, Weber, and others, has failed to thoroughly convince the writer. In his next article he promises to show, that everything has induced him to believe that the Hindus themselves rather borrowed their doctrine of transmigration from the philosophical system of Pythagoras.

Luigi Vives. A Pedagogist of the Renaissance. The interesting subject of this

article is probably to this day but little understood or appreciated by the pedagogists of northern Europe. To this day, many among them seem ignorant of the fact, or, perhaps, are unwilling to frankly admit, that along with the Catholic revival, and the intellectual renaissance of the Latin nations, there was initiated the tradition of really humane pedagogics, founded on the nature of man, and, in its aim and workings, vastly superior to the educational systems of the nations beyond the Alps. It was an earnest, liberal, refining educational system, that professed an affectionate regard for youth. It banished corporal punishment, and addressed itself directly to the heart and the intelligence. The Jesuit maxim: "debetur pueris maxima reverentia," still recalls the original spirit of this humane system of education. It is perhaps not an exaggeration to maintain, that, in the spirit of the time, it also aimed at the *beautiful* in education. It was a declared enemy to any thought, speech or action in *bad form*. To the subject of this article, the Spanish bishop of Valencia, Louis Vives, is due the honor of having been one of the most ardent and successful promoters of this new educational system, and to have been the Jean Jacques Rousseau of his time. Vives was born in the year 1492, and died in the year 1540. He had studied at the University of Paris, and was an intimate friend of Erasmus of Rotterdam. He is moreover the author of a number of valuable educational works. Bishop Vives, however, must also be regarded as a clergyman, who in his practical career would at times find it difficult to reconcile his broad-minded scholastic ideals with the duties of his calling, and with the exaggerated ascetical tendencies by which he was surrounded. As a matter of fact, in a short time the church is seen practically to override all this liberal educational movement of the renaissance. Within the college- and convent-walls, in the Latin countries, the humane paternal pedagogics of the renaissance soon and easily degenerated into oppressive, injurious, personal surveillance, and an odious theocratic tyranny. With all our sincere admiration for the work initiated by men like Louis Vives, we must nevertheless maintain, that all, or nearly all, the ecclesiastic educational systems of the Latin countries during the following centuries, can scarcely lay valid claims to a place within the pale of true pedagogical science.

The Philosophy of Empedocles. In this concluding article the writer exhaustively discusses the religious tenets and ethical precepts of Empedocles, as both appear in the *Proëmium*, in the third book on Physics, and in the poem of the "*καθαρμοί*"—or expiatory atonements.

Bibliography. In this department we notice a lengthy review of Prof. E. Dal Pozzo di Mombello's *Lectures on Monism*, delivered at the University of Perugia. In this number are also contained the *Bollettino Pedagogico Filosofico*, *Critical Notices*, and *Recent Publications*. (Rome. Tipografia delle Terme Diocleziane. 1891.)

REVUE PHILOSOPHIQUE. November, 1891. No. 11.

CONTENTS:

LES ORIGINES DE NOTRE STRUCTURE INTELLECTUELLE ET CÉRÉBRALE. I. Le Kantisme. By A. Fouillée.

DU RÔLE DE LA VOLONTÉ DANS LA CROYANCE. By J. J. Gourd.

In discussing the part of the will played in belief, M. J. J. Gourd considers our belief in an ultra-phenomenal reality which he calls "metaphysical belief." "All thought," he says, "involves a relation, viz. a relation between subject and object. Every relation presupposes a comparison of its terms and this comparison

is not established if the subject and object belong to different worlds. The subject is undoubtedly found in consciousness, the object must be there also. All the ingenious arguments to escape this conclusion are vain. Accordingly, one may well believe in the truth of the metaphysical belief, but this belief is not true."

M. G. Tarde, the great criminologist and an opponent of Professor Lombroso's school reviews the penological and criminological literature of recent times in France, Italy, and Belgium.

Alfred Fouillée revises in the article on "the origin of our intellectual and cerebral structure" several solutions of the problem of the nature of thought-forms, especially Kant's view of the *a priori*. Strongly influenced by Schopenhauer, he makes of the great pessimist's will-theory quite an original and peculiar application and finds that the question of "*idées-forces*" is also at the bottom of the question of the origin of ideas. In comparing the origin of ideas to the origin of solar systems, he says: "Ideas are the condensation of that which exists everywhere in a nebulous state into luminous centres and conscious focuses. Sensation is desire." And he sums up his view in the sentence: "Nihil est in intellectu quod non prius fuerit in sensu et voluntate." (Paris: Félix Alcan.) KPS.

ZEITSCHRIFT FÜR PSYCHOLOGIE UND PHYSIOLOGIE DER SINNESORGANE. Vol. II. No. 5.

CONTENTS:

DIE SINNE DER VERBRECHER. By C. Lombroso and S. Ottolenghi. (Mit 4 Figuren.)

UEBER VERGLEICHUNGEN VON TONDISTANZEN, By Gustav Engel.

LITTERATURBERICHT.

Cesare Lombroso and his assistant S. Ottolenghi communicate the results of their investigations of the senses of born criminals in a similar way as the former of the two had done in his "Studies in Criminal Anthropology," *The Monist*, Vol. I, No. 2, p. 177 et seqq. Our authors say: "Since the days of the famous Greek sage who said that nothing came into the intellect save through the gateway of the senses, it could be foreseen that a study of the senses would become the gateway to ethics." And, it is a fact recognised for some time but not as yet proved by exact methods, that a lack of moral sense is often accompanied with an obtuseness of the sense-organs. Dr. Azam's famous Felida showed an entire absence of the moral sense when she was in a state of analgesia; Romanes has pointed out that the sensitiveness to pain is greater in tame animals than in wild beasts, this is especially noticeable in the dog. It is noteworthy also that savage peoples are almost insensible to pain while civilisation often increases sensibility till it becomes hyperæsthesia.

Obtuseness of the sense-organs in criminals should not be confounded however with the anesthesia of criminals, because the rarity of laterality, the absence of isolated insensible places, the lack of motory anomalies, etc., exclude the supposition of hysteria.

Our authors found among 15 criminal boys between 10 and 14 years no less than ten cases of absolute analgesia, which proves that this symptom cannot be the effect of alcoholism, syphilis, marasmus, or overwork of a special trade.

Several anecdotes are told about the insensibility to pain. An old thief had his leg amputated with the greatest apathy; the operation done, he took the limb into his hand and joked about it. An inveterate murderer, his penal servitude being

ended, was dismissed out of the bagnio of the island S. He asked the warden to be retained, because he did not know how to get food and shelter. His demand being refused, he opened his bowels with the handle of a spoon, went to bed as usual, and died without even a sigh. Mandrin, a criminal, shortly before his execution allowed himself to be cut in eight places without giving a sign of pain; criminal R. flayed the skin of his face with a piece of glass. In the penitentiary at Chatham during the years 1871 and 1872, 841 voluntary wounds and injuries were made. Among them 27 convicts had mutilated some limb, and in 17 cases the limb had to be amputated.

This obtuseness of the sensory organs in criminals is supposed to be of a cortical origin and being similar to the phenomena of savage life is interpreted as atavism. Criminals show deficiencies in the senses of touch, smell, taste, and hearing, but not of sight. And this is analogous to the savage in whom the sense of sight is naturally very strong, and no criminal could execute numerous thefts or escape the arm of justice without a high development of the sense of sight.

In the second article on comparisons of tone-distances Gustav Engel, Professor at the Royal High-school of Music in Berlin, takes occasion to explain his views of the subject with reference to the severe criticism of C. Stumpf on Carl Lorenz's theory. Wilhelm Wundt had taken part in the discussion in favor of Lorenz. The subject of the article lies in the border-land between the physiology of hearing and music; and Professor Engel comes to the conclusion that affinity of tones, i. e. the interval-sense in a melodious succession does not lead to the same accuracy and reliability of hearing as their concord. He objects to the idea of an arithmetical difference as proposed by Lorenz and Wundt, and proves it through the fact that the Pythagorean tierce in the unaccompanied scale makes a less noticeable disturbance than in a concord, while the approximately pure tierce (which is too low only by a small fracture of a comma) is excellent in the concord while it causes a slight disturbance in the melody. Musical intervals are not identical with the geometrical intervals, yet they are based upon them as a selection made among innumerable possibilities for certain purposes. Their acceptance is established only in harmonic music, but this fact too adds some difficulties to the investigations made in this field, for if two tones sound together, we can no longer distinguish them separately, as would be required for the investigation; and if we let the one succeed the other their geometrical relation is no longer discerned with the same precision. (Hamburg and Leipsic: Leopold Voss.) Kp.

VIERTELJAHRSSCHRIFT FÜR WISSENSCHAFTLICHE PHILOSOPHIE. Vol. XV. Nos. 3 and 4.

CONTENTS of No. 3:

- PSYCHISCHE UND PHYSISCHE ACTIVITÄT. By *H. Höffding*.
 UEBER SPRACHREFLEX, NATIVISMUS UND ABSICHTLICHE SPRACHBILDUNG. (Achter Artikel.) By *A. Marty*.
 ZUR PHILOSOPHIE DER MATHEMATIK. By *Chr. v. Ehrenfels*.
 DER FOLGERUNGSCALCUL UND DIE INHALTSLOGIK. By *E. G. Husserl*.

CONTENTS of No. 4:

- DIE GESETZMÄSSIGKEIT DER PHYSISCHEN ACTIVITÄT. By *H. Höffding*.
 ETHNOLOGIE UND AESTHETIK. By *E. Grosse*.

UEBER DIE FORTSCHREITENDE ENTWICKLUNG DES MENSCHENGESCHLECHTS. (Erster Artikel.) By *F. Rosenberger*.

UEBER SPRACHREFLEX, NATIVISMUS UND ABSICHTLICHE SPRACHBILDUNG. (Neunter Artikel). By *A. Marty*.

UEBER FERNWIRKUNG UND ANORMALE. WAHRNEHMUNGSFÄHIGKEIT. Methodologische Randglossen. By *M. Offner*.

Prof. H. Höffding's article on psychical and physical activity is an answer to a criticism by Professor Kroman. Professor Höffding had proposed, concerning the relation of the psychical to the physical, a theory which he called the "identity hypothesis," according to which the physical and psychical activities are not different in their nature but only in their phenomenal appearance. K. Kroman, a countryman and colleague of H. Höffding—both are professors at the University of Copenhagen—rejected in his recent work "Logic and Psychology" the identity hypothesis and characterised it as "Duplicism," a name against which Höffding protests. Kroman's objections are as follows: *a)* Natural science knows of no reason to conceive of the relation of the psychical to the material in the way expressed by the identity-hypothesis. *b)* On the basis of the identity-hypothesis it remains unexplained how we can know anything about the external world. *c)* It is inexplicable how an identity can obtain of two so different things as are the bodily multiplicity and the psychical unity. Professor Höffding investigates these three objections separately and comes to the conclusion that his identity-hypothesis shows the relation between the psychical and material nature in a clear and simple light. It excludes on the one hand materialism and on the other hand spiritualism. The question whether either phenomenon, spirit or matter, represents the absolute nature of existence, cannot, according to Höffding, be answered. It appears to us that Professor Höffding's position is sound in all main points and may be considered as that view which is most prevalent among modern psychologists. However, concerning the question whether spirit or matter represents the absolute nature of existence, we refer the reader to the editorial article "Are there Things in Themselves?" section XII, "The Oneness of Subjectivity and Objectivity." In our opinion the question itself is illegitimate. Neither the subjectivity of spirit, nor the objectivity of matter represents the absolute nature of existence; both together form the nature of existence; and we omit here the word "absolute" purposely. The question as to which abstract, matter or spirit, represents the absolute nature of existence seems to us similar to the question which of the two terms *A* and *B* represents in the relation *A : B* the absolute nature of the relation. The obvious answer is neither.

The eighth article of A. Marty of Prague on Language-reflex is mainly of a controversial nature directed against L. Tobler's article on the origin of language in the *Zeitschrift für Völker-Psychologie*. By Nativism, Marty understands the theory that certain involuntary articulate sounds are associated with certain ideas, while the so-called empirical theory attempts to explain the origin of the first words without such innate mechanical relations between sounds and concepts. Marty represents the empirical solution of the problem and objects to the extreme nativism, but he grants that Tobler's modified nativism approaches very much to his own position.

The longest article of the present number (63 pp.) is an essay full of valuable hints by Chr. v. Ehrenfels on the Philosophy of Mathematics. The epistemological basis of mathematics demands a psychological investigation of its contents. Accordingly the author proposes to present a psychological characterisation of the

number-conceptions, from which he derives some conclusions concerning the theory of cognition. He investigates the origin of the unity conception which is generally defined as "positing a unit" or as "conceiving as a unit." We usually believe that we abstract numbers directly from the objects, when we look for instance at one house with two doors and five windows. But this process of abstraction is not quite so direct as it seems. The number-conception is not taken from external observation, but carried into the same; yet this is done involuntarily and inadvertently so that it appears as if they were *eo ipso* contained in it.

What is the origin of the concepts "unity" and "multiplicity"? Two methods present themselves: 1) The concentration of attention and (2) the act of bringing into relation. The former produces a unity and, when successively directed to several objects, a series of units. The latter appears to be required by the consideration that the conception of a number is conditioned by acts of distinguishing. The number "two" requires two acts of distinguishing, "three" requires three, "four" requires six and the number n requires $\frac{n}{2}(n-1)$ acts of distinguishing. This explains why we can have clear and direct conceptions only of very low figures. The idea that a combination of both methods will explain the facts is by no means excluded. But there is a third source which may be used to explain the unity conception, viz. inner experience. "The unity of consciousness," Ehrenfels says, "has been misused in philosophy to demonstrate the substantiality, simplicity, and indestructibility of the soul." Nevertheless there is some truth in the unity idea, for the present psychical phenomena present themselves in a peculiar amalgamation, which admits of a comparison between two elements while it erects a barrier between the *ego* and the *tu*. Our psychical contents will always appear to us as a unit; and on this basis we might declare that the unity conception is derived from this source. [Here Ehrenfels does not see that the concentration of attention is practically the same as the unity of consciousness, for attention means consciousness, and concentration produces unity.]

Number-conceptions originate by counting. We disjoin things; for instance, we throw a number of apples into a basket, or we let the finger slide over the division lines of a measuring stick naming each unit while proceeding in the act. From such processes the function of counting can be abstracted while the details are neglected as unimportant. Most of the higher numbers are never directly but only indirectly realised. So for instance twenty is to many that number which will be reached by counting up to twenty, yet the single units of the number are lost sight of entirely. Such number-conceptions belong to the class of "indirect concepts" which represent objects not through marks belonging to the object itself, but originating through its relation to other objects. The basis of such indirect concepts had been called by Ehrenfels *Gestaltsqualitäten*, i. e. figure qualities, and by Meinong *fundirte Inhalte* or founded contents. Thus indirect conceptions are parts contingent upon some such basis.

Number-conceptions are not always clearly thought out and there are some helps to represent higher or more complex numbers. Thus we can think of ten as represented by the outside and inside corners of a pentagram, twelve as the edges of a cube, etc., and common among all nations is the usage of the fingers to represent numbers up to ten. Such helps are quite different from indirect number-conceptions and may be called figurative number-conceptions.

That there are mathematical conceptions of magnitudes which have no objective analogon is quite natural, for there is even in an indirect conception no warrant for

its objective reality; and we ought to consider how many word- and idea-combinations are possible without their possessing some analogous reality. Yet the so-called irrational cannot properly be called a number, it is the demand of a number which in fractions can sufficiently for certain purposes but never fully be realised.

Negative numbers always presuppose a contrast and such conditions arise naturally wherever the fundamental ideas imply two opposite directions, for instance past and future in time, credit and debit in business, etc. It is a matter of course that there are in reality as little either positive or negative numbers, as there are positive or negative colors or sounds.

Concerning the necessity idea, Ehrenfels says: "Nobody will consider it as possible that five plus seven will in some cases make any other number than twelve. We are confident that the same addition will under all circumstances yield the same sum. Ehrenfels grants the psychical certitude of this but not the mathematical, and thinks that on this point there is a difference of opinion allowable. Here we disagree from Ehrenfels and refer the reader to former articles on kindred subjects in *The Monist*, especially the article on "The Origin of Thought-forms," Vol. II, p. 111. We must bear in mind that in mathematics we are moving in a realm of pure forms and the statement $7 + 5 = 12$ is, as the Germans express it, *eindeutig bestimmt*, i. e. it is determined exhaustively in one and the only one possible way. The numbers 7 and 5 being rigid, their sum and their product will also be rigid.

This difference of opinion may be contingent upon a difference of the conception of the *a priori*. Ehrenfels defines as "a priori" such judgments which having come into our possession, are readily accepted without proof. We follow Grassmann in rejecting the acceptance of anything without proof, including the idea of mathematical axioms. The *a priori* in our terminology becomes identical with that which pertains to formal thought; and it would make no difference whether the instance presented is as simple as $1 + 1 = 2$ or extremely complex as are the differential calculus and logarithms. Accordingly we disagree also from Ehrenfels when he finds even in such additions as for instance $825 + 217 = 1042$ vestiges of an *a posteriori* character. The employment of the logarithms accordingly appears to Ehrenfels also *aposterioristic* because the fruits of other peoples' labors are utilised!

Concerning John Stuart Mill's view of the subject, Ehrenfels says that "it is still deeply entangled in the errors of that conception which it so bitterly opposes, viz. in the formalism of the old purely *a priori* conception. For only he who adheres to the view that all mathematics are deduced from a few axioms can think of attributing to those axioms the highest degree of plausibility which is assumed for them on the ground of comprehensive deduction." We agree with Ehrenfels's objection to Mill, but we cannot agree with his view that mathematics derives any elements from a *posteriori* elements, although we grant that quite new departments are created simply by a different employment of certain functions. Accordingly mathematics cannot be derived from a few axioms only but is the products of certain functions.

Ehrenfels calls attention to the fact that the mathematician operating with symbols often forgets entirely what he has to think of in connection with these symbols. "This is not strange," he adds, "for thoughtless word-combinations present analogous instances, yet it is strange that the result almost without exception comes out right; *es stimmt!*" We object here; operations with mathematical symbols are not thoughtless combinations, at least, they are not meaningless. They are operations not with things, but with symbols representing certain relations among

things. When gamblers play with chips representing real money, they need not think during the game of the value represented by a chip, and yet when the account is made, the result attained with the assistance of the chips will come out right. There is no reason to wonder at it. Chips like mathematical symbols might in a certain sense be called thoughtless, for certainly they do not think; but they are not thoughtless in the sense that they are meaningless, that nothing is thought by them.

Ehrenfels apparently sees a problem where there is none and this is closely connected with another point. He looks upon the mathematician's inability of thinking out in every respect the objective meaning of mathematical symbols as a shortcoming of man's intellect. While it appears that we cannot think anything by many mathematical symbols (for instance by $a^0 = 1$) except the symbol itself, the enormous success of mathematical thought is evidence that they must have some definite meaning although it is to be excogitated only by those beings who will transcend the average intelligence of to-day, the first germs of whose existence are the mathematical geniuses of the present generation. It appears to us that undoubtedly every mathematical symbol has a definite meaning, representing the result of some function. That the result will sometimes be unattainable or unrealisable, that especially all operations with zero make the whole calculation indefinite (which naturally arises from the nature of zero) does not alter the truth of this proposition in the least.

We have to make one additional remark. The peculiarity of mathematics that we do not throughout our operations think out the meaning of the symbols is not a shortcoming of our intelligence, but the strength of mathematical science. The advantage of all the formal sciences and especially of mathematics consists in this that we *need not* think out every detail, but that we can, through the assistance of mathematical symbols, perform the most intricate operations with machine-like exactness. The economy of thought produced in this way is not a deficiency of man's mind, but a virtue.

Prof. H. Höffding (in No. 4) insists upon the causal law as being indispensable in psychology. There are some people and among others his colleague Professor Kroman who regard moral motives as an exception. "Yet," says Professor Höffding, "should the decisive moment of a decision not be determined by the causal law, the will could never be determined through a reflection on the possible effects of the action and thus every reason would be missing to attribute to man any responsibility."

E. Grosse expatiates on the proposition to apply the comparative method of ethnology to aesthetics. Ferd. Rosenberger proposes the following programme: "Knowledge is power; activity based upon such power is the cause of happiness. Therefore with the increase of knowledge, there is an increase of happiness, successful activity however is impossible without virtue. Therefore we conclude that an increase of happiness will be accompanied with an increase of virtue." A. Marty in this his ninth article blames Steinthal for having misrepresented the eighteenth century theories of the origin of language.

M. Offner reviews Dr. Charles Richet's reports of his telepathic experiments, but the reviewer cannot assent to Richet's opinion "that these facts possess a strange coincidence and that they are, probably, the result of a relation and not of pure chance." (Leipsic: O. R. Reisland.)

KPS.

PHILOSOPHISCHE MONATSHEFTE. Vol. XXVIII. Nos. 1
and 2.

CONTENTS:

ZUM BEGRIFF DER UNBEWUSSTEN VORSTELLUNG. By *E. v. Hartmann*.

UEBER DAS GEBET. EIN RELIGIONSPHILOSOPHISCHES FRAGMENT. Sendschreiben
an Herrn E. Renan in Paris. By *M. J. Monrad*.

WERKE ZUR PHILOSOPHIE DES SOCIALEN LEBENS UND DER GESCHICHTE. Erster
Artikel (H. Spencer, Sociologie, Bd. III). By *F. Tönnies*.

RECENSIONEN: H. Münsterberg, Beiträge zur experimentellen Psychologie
No. 3: Neue Grundlegung der Psychophysik. By *Th. Ziehen*. W. Enoch
Der Begriff der Wahrnehmung. By *P. Natorp*. Ch. Bénard, L'esthétique
d'Aristote et de ses successeurs. By *A. Döring*.

LITTERATURBERICHT.

The well-known philosopher Edward von Hartmann defines his position with reference to the idea of an unconscious representation. Granting that there are no unconscious sensations, perceptions, conceptions or memories, because feeling either is conscious or not at all, he introduces the idea of unconscious representations again as the most adequate determination. He says, "Either we must renounce all speaking and thinking of non-sensual objects or we must be satisfied with using figurative expressions."

M. J. Monrad, a Norwegian, argues, in the second article against M. E. Renan's theory of prayer, whom he had visited some years ago in Paris, that prayer has after all an effect upon the objective world and it is not limited to a merely subjective and psychological influence. Monrad presupposes a belief in God, prayer bringing the individual in unison with God, changes the will of the individual into a co-ordinate willing of God and thus renders the individual a co-worker of God. This, however, should not be conceived to take place by magic and in contradiction to nature, but through nature, man using the laws of nature.

F. Tönnies of Kiel gives an exposition of Mr. Spencer's social views which are, briefly expressed, "the final victory of society over the state." Professor Tönnies answers that "we all want a higher civilisation, but the development of a higher civilisation is not conditioned by the final victory of society over the state. On the contrary, it may be said that it depends upon a victory of the state over society in so far as public rights will supersede private rights. . . . The truth is that state and society are contingent, the one upon the other and also limiting each other." (Berlin: Dr. R. Salinger.)

KPS.